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PROGNOSIS IN CARDIAC AFFECTIONS

AS RELATED TO THE DISCOVERY OF MURMURS AND TO ARRHYTHMIA

ROBERT H. BABCOCK, M.D., LL.D.

CHICAGO

Invaluable as is auscultation in the study of disorders of the heart, it should not supplant or take priority over other means of physical investigations. The introduction of the stethoscope by Laennec was so epoch making, and aroused such enthusiasm, that medical practitioners came to rely on auscultation wellnigh to the exclusion of palpation, percussion and minute inquiry into the history and symptoms, on which previously physicians had been compelled to depend.

The influence of such teachings and of such an example has persisted even to this day, as is shown by the weight that life insurance companies and Army medical officers are wont to attach to the discovery of a cardiac murmur and to irregularities and an unwonted rate of the pulse. So prevalent is the belief that a murmur means a functionally damaged heart that most physicians at once attach an unfavorable prognosis to the presence of a cardiac bruit. And many a person has had his outlook on life darkened and saddened by the announcement of the detection of a murmur. The same thing may be said of the recognition of an irregularity of the pulse. Yet almost every practitioner of much experience can recall instances of persons who, in spite of a valvular murmur or of an occasionally intermittent or otherwise irregular action of the heart, have lived many years, some of them even to the allotted span of three score years and ten, and who have led happy, useful, often active lives. I recall one man who lived to the age of 73, despite the existence of a pronounced mitral leak from his sixteenth year. A prominent attorney of Chicago was discovered over thirty years ago at the age of 15 to have a mitral regurgitation of endocarditic origin. It is because of the conviction of the unreliability of heart murmurs or of intermittence of the pulse from a prognostic standpoint that this paper is written.

MURMUR

It has been customary in textbooks and among teachers to divide heart murmurs into the two main categories of organic and functional or accidental. This is still a useful division, if by accidental or functional one wishes to signify that a murmur is not indicative of a serious structural defect. But, with increasing experience, I have come to believe that the instances of accidental or functional murmurs are much less common than I formerly thought. That a bruit may occur in cases of severe anemia or of chlorosis or during greatly exaggerated heart action, and may ultimately disappear with return to health or to a normal cardiac action, is quite conceivable. But is such a murmur to be considered functional or accidental? May it not be a manifestation of some temporary condition, as relaxation of the myocardium, in consequence of the blood state or of incomplete emptying of the ventricle in cases of tachycardia which gives rise to the murmur, and which on being corrected permits the bruit to vanish? Such a murmur, even though transient, signifies something more than a functional disturbance. Even if it be not a serious structural change in the heart, it yet is what should be called an organic, not an accidental, murmur.

If such a temporary bruit is a systolic one at the apex, it probably denotes a muscular mitral insufficiency due to slight ventricular dilatation and consequent imperfect closure of the mitral valve. When the systolic bruit is heard at the base, may it not be produced by some as yet not clearly understood alteration of the aortic or pulmonic ring, or of the coats of the respective artery?

This preamble brings us to the postulate forming the text of this paper, namely, that we are not to form our judgment of a case on the detection alone of a murmur, whether this is diastolic or systolic, for a really intelligent opinion can be formed only by a study of the case in all its aspects.

We cannot now consider all the rules governing the correct interpretation of murmurs, but there are a few statements bearing directly on the subject matter of this paper. Whether there are or are not inorganic, that is, functional or accidental, murmurs, the question can arise only as regards systolic bruits, for a diastolic bruit, in my opinion, is always organic or due to some structural defect. For instance, whatever the significance of an apex systolic murmur may be, a presystolic murmur in this situation can mean only a mitral stenosis, with the one exception of the so-called Flint presystolic bruit in aortic regurgitation. Likewise, however a systolic murmur in the aortic area is to be interpreted, an aortic diastolic bruit does mean an aortic regurgitation.

Therefore, our chief difficulty in formulating a prognosis does not arise in cases of diastolic so much as with systolic murmurs. Yet even as regards diastolic bruits there is a marked difference with respect to prognosis, for, as we all know, not all cases presenting the same sort of murmur offer the same prognosis. As we shall see, much depends on the degree of the lesion, on the integrity of the myocardium, and on the subjective symptoms. As a general proposition, how-

ever, it may be stated that a mitral or aortic stenosis offers a less favorable outlook than does a regurgitation at the same orifice. The condition responsible for a stenosis is generally progressive, and hence, no matter how well compensated the lesion may be at the time of examination, the life prospect is apt to be shorter than in cases of insufficiency. An aortic regurgitation commonly deemed more serious than a mitral incompetence may be endured from early childhood well on into middle age. Parenthetically speaking, however, it may be remarked that reference is here made to cases due to rheumatism and not to syphilitic aortitis.

Of systolic murmurs, the most frequent perhaps are those heard at the apex and termed mitral. These may be divided in a general way into two great classes: those of endocarditic and those of myocardial origin. The latter, although found occasionally in the young, usually occur at or after the middle period of life. They may replace the first heart tone altogether, but for the most part accompany and do not obliterate it. Their area of transmission is generally limited or is restricted to the location of the apex, and sometimes the murmur is heard only or most plainly in the recumbent and not the upright position. Usually also the area of deepseated dulness is increased transversely, and the aortic second sound is accentuated. In some cases a systolic bruit is audible in the aortic area, especially also in the dorsal decubitus, and blood pressure may be too high, within normal limits, or even too low, as compared with the stiffness of the superficial vessels. Such a murmur may be taken to indicate a muscular mitral insufficiency, and to be due to degeneration of the papillary muscles or to degeneration and relaxation of the ventricular wall. In either event, the mitral ring is not tightly closed, and the cusps are not closely pulled together. Since, therefore, the functional capacity of the heart depends on the soundness of its musculature, it goes without saying that the prognosis as regards such a murmur is not very good. Even in such, however, much depends on the age, the history of previous illnesses, habit, existence of focal infections with their possibility of still greater injury to the myocardium, and particularly on the degree of damage already sustained by the heart, as shown by hypertrophy and dilatation and by subjective consciousness of cardiac enfeeblement of angina.

In a case of true valvular or endocarditic murmur, no matter how well compensated the lesion, we must in estimating prognosis take into consideration all factors likely to injure the heart still more. For instance, a history of repeated attacks of rheumatism or the discovery of chronically infected tonsils renders the outlook doubtful, to say the least; for the patient is exposed to the possibility of fresh endocarditis with all its uncertainties.

If, notwithstanding a mitral systolic murmur of rheumatic origin, the heart is practically of normal size and the right ventricle in particular is not enlarged, it is presumptive evidence in favor of the myocardium's having suffered slight if any damage, and the heart muscle may be assumed entirely competent. In short, if the patient is capable of strenuous exercise without shortness of breath or an uncomfortable consciousness of palpitation, the prognosis may be set down as excellent. For, in a word, we must remember that it is not the mere discovery of an apex murmur or its degree of intensity that should influence our prognosis. We should bear in mind also that the behavior of a heart at the time of examination should not govern our opinion of its functional integrity, but that we must look for all secondary effects on other organs as well as on the heart itself, and must balance these up in connection with the symptoms under exercise and strain.

These principles are often ignored by Army examining boards and by life insurance examiners. For example, a fine, big fellow who had served in the war with Spain was rejected last spring by one of our examining boards because of the discovery of a systolic murmur. I found that the patient had a soft, not very pronounced systolic bruit between the sternum and left nipple, which murmur did not replace the first tone and was not transmitted beyond the mammillary line. Moreover, the second pulmonic sound was not accented, and the heart did not measure more than was to be expected in a man with his capacious chest. He did not experience breathlessness on exertion, and was able to play hard tennis without any symptoms of cardiac strain. His rejection was considered an error, as his heart was entirely competent. Another recent instance is that of a young man who had just gone through six months of training at Camp Benjamin Harrison without any injury, but, on the contrary, with benefit. Although he had received his commission as a second lieutenant, he was nevertheless refused admission to the Regular Army in the Engineering Corps on account of a systolic murmur, despite the absence of any other sign of heart defect. In fact, he had never known he had anything wrong with his heart until told of his rejection. Many examples of this sort could be narrated. Sir James Mackenzie of England cites similar instances, and expresses the opinion that these hearts should not debar young men from military service. Profiting by their mistakes early in the war, English surgeons are now recalling such men for reexamination, and are accepting them as entirely fit.

There is another systolic murmur, not apical but heard over the body of the heart in the second or third and sometimes fourth left intercostal space close to the sternum, that creates much uncertainty in the mind of the examiner. Occasionally this bruit, particularly if audible with maximum intensity in the fourth left interspace, the heart beating rapidly or violently at the time, is, in my opinion, produced within the right ventricle, and may indicate a temporary leak at the tricuspid orifice, and is the counterpart of the muscular mitral insufficiency already considered. Such a murmur does not offer an unfavorable prognosis necessarily, but must be judged of in accordance with the principles laid down above.

A systolic murmur heard in a small percentage of persons, but probably more common than is supposed, is that described by Gehrhardt as the bruit of patency of the ductus arteriosus. It is transmitted upward from the second interspace and over the apex into the upper portion of the left interscapular region. Careful percussion will detect also a line of relative dulness which, beginning below the left clavicle close to the sternum, can be traced downward and outward as far as the upper margin of the auricle. The fluoroscope may be required to confirm the diagnosis, but in three cases seen within the past two years, the diagnosis was ventured on the auscultatory and percussion findings alone, and was substantiated by the roentgen ray. This murmur has no evil prognostic significance, since

the congenital defect does not impair the functional capacity of the heart.

What can be said of diastolic murmurs more than has been said already? An aortic regurgitant bruit of rheumatic origin may be compatible with perfect functional competence, but in the main is of more doubtful future than is a mitral insufficiency. Mitral stenosis, no matter how well compensated, renders the heart unfit for much physical effort, and disbars for military service.

It is hoped and believed that our Army medical officers are now being permitted by the Army Medical Board to use their judgment in passing on questionable cases, and that examining surgeons are recognizing the fact that the mere discovery of a murmur should not necessarily reject a man; for experience will prove that the preparatory physical training to which recruits are subjected will harden and render fit the heart muscle the same as it does the skeletal muscles.

Finally, let it be said that the same rule should apply to persons being examined for life insurance. For instance, only the other day a man of 31 was denied insurance because of the discovery of a systolic murmur that was said to develop on violent exercise; and yet I was utterly unable to detect any bruit in the sitting, recumbent or standing position, or even after the man had hopped up and down the office several times. Neither was there any enlargement of the heart, and the blood pressure was absolutely within recognized normal limits. Such a verdict as was given to this applicant is a rank injustice.

ARRHYTHMIA

Let us turn for a moment to the prognostic significance of cardiac irregularities. There can be no question concerning the evil prognosis to be attached to auricular fibrillation or to the presence of persistent ventricular extrasystoles in the aged or in conjunction with a valvular lesion. The matter is different, however, when we have to consider occasional intermittence of the pulse, and the rhythm is such that only occasional pulse beats fall out and the succeeding beats follow in perfect time. This form of arrhythmia is very common, and is apt to frighten the patient, his alarm being intensified by the attitude of the physician. As a matter of fact, intermittence of the pulse in the overwhelming majority of cases is a symptom not of grave significance, since it is not due to structural change in the heart, and hence is not to be regarded as indicative of heart disease. It is due to increase of the inhibitory action of the vagus, and generally is referable to some toxic agent, as abuse of tobacco, coffee or tea, or to some derangement of digestion that is shown by a sour stomach or by constipation. When of such origin, the intermittence is generally found to disappear immediately following exercise, as hopping about the office, although it will usually return as the heart quiets down. On the other hand, the intermittence is likely to be intensified when its cause resides in some alteration of the myocardium. Furthermore, this functional intermittence, as it might be called, can generally be corrected permanently by treatment addressed to elimination of its toxic cause and by the administration for a time of digitalis. Therefore, even when there is a valvular lesion, this periodic type of irregularity of heart action does not possess an evil prognostic significance. There is no question, however, as to its harmful effect in the course of time if treatment fails to correct it, particularly if it persists in a person at or beyond middle age, when the state of the heart muscle is problematic. The same statements apply also when a valve lesion obtains, for in either case persistent and frequent intermissions may lead gradually to dilatation of the heart and incompetence.

30 North Michigan Avenue.

TREATMENT OF THE EPILEPTIC

BASED ON A STUDY OF THE FUNDAMENTAL MAKE-UP

L. PIERCE CLARK, M.D.
NEW YORK

In medical literature of two or three decades ago, one often reads about the best lines of treatment for abscess and cavity formation in those suffering from lung tuberculosis. Of course, such therapeusis was doomed to failure from the very fact that nothing could be of avail in such terminal states. Soon after that period, good clinicians used to shake their heads despairingly even when there was no marked lung consolidation. It was not until we reached the stage of detecting the very beginnings of tuberculosis in lymphatic and bronchial involvement that the modern era of hopeful treatment of this disease really began. Today the gloomy view of the past in the therapy of tuberculosis, with its nauseous drug compounds and easements of narcotics, has been largely superseded by the rational one of fresh air, sunlight, proper nourishment and an intelligent living regimen.

Such a parallel of progress in therapy is on its way in the handling of many psychoses and neuroses today, and nowhere is the portent of a change more patent than in the beginning rational therapy for epilepsy. I once heard a neurologist in a European clinic say to an epileptic: "No, my man, we can treat your disorder to little purpose until the seizures which you now have infrequently are sufficiently common in daily or weekly attacks so that we can properly gage the degree and amount of sedatives you really need. Come back to us when that time shall arrive, and we will undertake to do something for you." This physician held that the only proper therapy for epilepsy was a sedative one directed solely against the seizures, and that when the latter were not sufficiently frequent he could not properly gage the amount of sedation needed; hence the advice quoted.

Fortunately for all concerned, a better view is beginning to be taken of the proper therapy for essential epilepsy. Few physicians today hope to eradicate this nerve disorder when epileptic seizures are frequent and exhaustive, when the memory has failed and the patient shows deterioration in ability to maintain proper self direction of his life. It is beginning to be realized that so-called idiopathic epileptics are rarely if ever free from the hallmarks of their disorder in physical and mental traits during seizure intervals, and in point of fact they have need of the broadest possible therapy to cover their entire life activities. To those physicians who find the epileptic ill only in his seizure periods, my message will prove of little avail. To such the seizures often appear unheralded and unexpected, and hence there is little outside of a stereotyped therapeutic formula given their patients for the interval life. The advices contain the maximum of directions to tranquilize the patient at the seizure period.

When one studies the majority of patients carefully, one notes the enduring presence of the physical and mental stigma of their peculiar make-up. Oftenest this antedates the very inception of their disorder, and cannot be properly charged solely to the seizure phenomena, as this personality and temperament, as well as physique, most frequently date from birth. This being the case, we must grow to realize that the outspoken attacks in such persons are frequently but the turmoil stages of a disorder that has been in evolution for years. The grand mal attack usually is seen only after years of petit mal symptoms of absences, vertigos, or epileptic states of distraction or dizziness, which in turn are heralded by conduct and character disorders threatening more serious consequences from the earliest life. Even if we only recognize the true nature of the disorder, or confine our attention solely to abolishing the milder character of attacks, we shall still find our therapy baffled. It is absolutely essential, therefore, that the lay public shall be constantly educated to detect the potential epileptic character, although it may never break into frank seizure symptoms. Then, and not till then, will the full value of our modern therapy for this disorder change from the present narrow and pessimistic one to one more in accord, for instance, with that for the tuberculous or the more modifiable psychoses.

THE VALUE OF EARLY DIAGNOSIS

Let us review for a moment the profound disease significance of the first grand mal epileptic attack: First of all, it means that through the accumulation of endogenous or exogenous toxins, or other more or less purely psychic causes of emotional stresses, or both, the patient loses consciousness, breaks from his accumulated difficulties or any tolerable handling of them, and regresses into an unconscious state. Now that we have come to know some of the definite levels of strivings to which the epileptic patient regresses in his unconscious state, whether as a prompting or compulsion of the unconscious forces or not, we know that the level of mental activity reached in the attack is as deep and crude as that of any psychotic patient, even that of the praecox, for instance. We know that this state is pleasurable or contentful to certain unconscious desires, as revealed by studies on the mental content obtained at the time of an attack or in the unconscious state following one, and that this regression is quite at the infantile level. Coupled with this revelation, there is a convulsive part of the attack of such expressive character that it indicates that the deepest automatic protective reflexes, as those of keeping the tongue from being bitten and a control or guard over the sphincters, are lost. Hence we have in the grand mal attack the most profound degradation of the mind and body possible, warranting the old name for epilepsy as the Great Disease. This, too, is perhaps realized for the first time at the first detection that any real disease exists at all.

Again referring to our initial parallel of this disorder with that of tuberculosis, one sees that such a belated clinical arrival on the field is fairly comparable to the position taken by clinicans of half a century ago when they first detected tuberculosis as shown by the formation of tuberculous cavities in the lungs. Although the two disorders are quite dissimilar in all clinical expressions, the detection of epilepsy at the presence of grand mal attacks for hopeful treatment is not essentially better than that of tuberculosis at the stage mentioned, only a small percentage of patients in either class being restored to health. Perhaps the analogy of the two as regards prognosis may be carried a little farther: The stage of extensive tuberculous consolidation has about the same prognosis as that of an essential epilepsy detected at its mildest beginnings in petit mal or protean manifestations of frank periodic seizures. We know that only about 10 per cent. of the latter patients are fully restored or brought to a more or less permanent arrest. Finally, when we shall detect epilepsy before any crude manifestations of attacks as such have occurred, but in the stage of *potential* epilepsy, as in the early diagnosis of lymphatic involvement of the tuberculous, may we not hope that the former will have as hopeful a prognosis as the latter? Unfortunately, we have no diagnostic bacteriologic or roentgenographic aids to help us in diagnosing the beginnings of essential epilepsy. There are, however, equally potent though at present more elusive criteria in the psychic and somatic make-up of the potential epileptic that must be the more obvious as our diagnostic standards become the clearer defined. We already know crudely what some of these constitutional factors are, as shown in analyses of epileptic patients. It is expressed in a make-up of supersensitivity, egotism and such a defective primary endowment of instincts that such persons fail of an easily adjusted or a rich emotional life during their childhood and adolescence. The fault is quantitative as well as qualitative, thus differing from these mental traits found in normal persons. When the latter statement is fully recognized, the diagnosis of the epileptic make-up will be somewhat easier.

Since, for some years to come, our main efforts at correcting or bettering the life and disorders of the epileptic will have to be centered on him as an individual badly adapted for life in the home, in society or in special sanatoriums, we shall, then, earnestly increase our efforts to open and make keener his opportunity to objectify his peculiar type of personality, his hopes and his ambitions into a properly adjusted and selected environment. It is highly important for us to study our individual cases even more carefully with this end in view. This attitude, however, should not limit our vision that the home, school and society at large may in time learn to recognize the immense importance of detecting this large and ill defined group of potential epileptic children and take proper steps by the aid of broad prophylactic measures to prevent such individuals from following an epileptic career in later life. For the present, it behooves us to study our actual case material most intensively in the broadest psychobiologic manner possible. There can be no doubt that in doing so we shall be able to contribute not a little of therapeutic as well as of diagnostic value.

At another time I shall present a careful digest of the potential epileptic character shown in a composite picture drawn from a large case material; in this article I shall be content with the more or less complete analysis of a few cases. A part of these are reported to show the gradual evolution of a confirmed epileptic character about whose unfavorable prognosis as to recovery hardly any one may be in doubt; the others are less definite and classic as a type of make-up from which one may hope most in securing an arrest of the disorder or possibly a permanent cure. While an analysis of actual concrete cases is often tedious

and long drawn out, it is by far the safer scientific procedure when many of the fundamental hypotheses we have assumed to be patent as precipitating factors are still in doubt or are at present openly rejected by some clinicians as not being of a sufficiently dynamic character to induce the frank disorder of seizures of genuine epilepsy. Whatever influence the latter opinion may carry, I shall be content to state the case material and the sequence of the facts as they appear to me, and there let the matter rest.

PRESENTATION OF CASES

CASE 1.—A married woman, aged 27, who had a child one year after marriage, five years ago, had three fainting attacks which were probably epileptic in character, in the year immediately preceding her marriage. As is common, they were not carefully considered. She is the only surviving child in a family of four. Her mother was tuberculous; her father was alcoholic, and was 65 years old at her birth. While she was not a passionate child in the sense of having tantrums, she was extremely sensitive, often having periods of meaningless crying, and these still occur not infrequently to this day. She grew up a "nervous" child in the sense of being extra sensitive. From a state of frightened anxiety on hearing powerful music as a child, she continued to have attacks of trembling if any one even spoke ungently to her. It was difficult for her to adjust herself to the various duties of the home, and "things had to be just so."

As said before, when annoyed she did not have rages or tantrums, but inconsolable weeping attacks which in their results obtained for her quite as much as is ordinarily gained by tantrums in passionate children. Beneath this gentle glove of extra emotional exhibition there lay quite as adamantine a personal attitude as that commonly possessed by difficult children. This childlike system of weeping was employed on all occasions. As she grew up it was used apparently unconsciously as the means to avoid making life adaptations, such as those called for at school both in the classroom and on the playground. She never developed good power of concentration, for so soon as this faculty was unpleasantly taxed she used her favorite emotional method of avoiding the difficulty. As she did not attend a graded school, it was impossible to determine the degree of education she obtained in the preparatory school; but that her education was not up to her opportunities is shown by the fact that at 17 she had hardly finished the grammar school requirements. The commonly accepted less onerous studies, English and music, were her best school subjects. At 19 she took a musical course at a university, but here again she avoided even the intensive study and discipline of the regular course of a musical education. She took a special elective course instead. Up to this time, whenever the environmental stresses were a little too irritating or interfered with her childlike comfort or peace of mind, the environment itself was molded to meet her pleasure, and not the reverse. If this were not done she grew listless and pale, drooped, yawned, and required an extra amount of sleep and recreation. Thus she grew up cared for and watched over by foster parents in an atmosphere of comfort and ease far beyond her personal ability to maintain.

Near the end of this period, just before the patient married, her foster mother died, and an adult adjustment of a more taxing character began. First, her little personal social affairs had to be adjusted without the former aid of her foster mother; then she had seriously to take up a definite occupation looking forward to independent support of herself. She found herself totally unprepared by training or education to do this. She day-dreamed more, and when pressed not too gently to get on in her preparation she grew pale and listless, and had frightening dreams and headache. Occasionally she had slight fainting attacks and causeless weepings. While under this special stress and after having had the slight petit mal symptoms previously referred to, against the advice of her friends she married a man whose mother increased the patient's living embarrassments. The attacks became more frequent, and at the birth of her only child a year after marriage she had frequent grand mal attacks, two and three in a single night. As she says, "It was always hard for me to adapt myself to the ways of others; but now after marriage there was no other way for me to do, but in trying to do so it broke down my nervous health completely."

We now have a grand mal epileptic without gross organic disease, rather pale and anemic in appearance, undernourished and with flabby muscles, and with sluggish circulation, as shown in clammy feet and hands. She is almost continuously in a grieved, childish petulance. Her housework is not done, her child is neglected, and she herself dreams vague dreams of what she might have been had she not married a poor man and gone to live in a little uncongenial rural community where her mother-in-law now offers rather malicious sympathy and lords it over her in her invalidism and incompetence to manage her added burdens of a husband, home and child. "When I am free from care and too much work, and when I can be in the open air a good deal and study (?) my music, I am never nervously ill; besides, I pick up physically at once under the freer life." This is the pertinent lead she gives us as to the proper treatment for her grand mal epilepsy.

To summarize, we have here an undervitalized primary endowment of a young woman born of an elderly alcoholic father and tuberculous mother. She was inordinately sensitive to sounds of all kinds, and very narcissistic and mother-attached. In the failure of a proper adaptive training, and being, on the contrary, allowed to mold the environment as she liked rather than obliged herself to make the adaptation, she got on fairly well until the more specific adult demands of living an independent life at the death of the foster parent and a final unmodifiable marriage situation occurred. She then had more weepings because of hurt feelings, day-dreamed more, and when these failed to be sufficient relief, a grand mal epilepsy seems to have developed. Already in her short epileptic career her memory is poorer, and some emotional deterioration is on its way.

What is our therapy in such a case? First, the patient was given therapeutic talks on the defects of her endowment and childhood training and their results. Then followed similar talks with the husband and relatives requiring them first to remove the life stresses so that the patient might regain her ordinary physical health and proper mental poise. She was advised to discard the numerous "patent medicines" containing large quantities of bromid, which had already given her bromism and a marked stomach and bowel disorder. These preliminaries having been passed, she was urged to take music as a study and also to teach it. Both are agreeable to her, and each effort carries its own pleasure and discipline. She was urged to trade off her onerous and distasteful housework to some one else, whom she could easily employ through her earnings at teaching. In this manner we were able to start her on the roadway to better mental and physical health, and reduce the amount of irritation and sensitiveness that were so harmfully acute. She is already brighter and happier, and looks forward to cooperating in this rational plan to make good in some measure her early neglect of a proper physical and mental development. Of course, such a patient rarely realizes that the task which lies before her is enormous and that there are many pitfalls and discouragements ahead; but with wise, sympathetic guidance on the part of all concerned, we cannot doubt that she will in some measure accomplish the main purpose of her task. Too short a time has elapsed for me to report other than the start of a rational therapy, and to mention the sequence of betterment as already noted.

One is apt to think that supersensitiveness, the great primary fault in Case 1, is antithetical to that of egotism; but when one realizes that shyness, timidity and self consciousness are all attributes of the supersensitive child, and that all these traits are due to an exaltation of a self feeling and engrossment which enlarges the narcissism of the individual, one sees how really egoistic the supersensitiveness may be regarded. It means that such persons do not fully objectify their

love and sympathy to a proper extent, and that adaptations to reality from birth are bound to be imperfect, thus disturbing the whole mechanism of a normal healthy adjustment. The methods used for early elimination of this trait of character in children have been fully discussed in my previous studies.[1] Although this character trait of morbid sensitiveness is socially less objectionable than that form of egotism more patently inflicted on the family in the form of rages and tantrums, in its intensive expression it is truly more disastrous to such a child. It inflicts on such a child a "back kick," as it were, of the whole explosion of the emotional affect of "weepings" instead of a mutuality of infliction, as in a tantrum episode.

One is often asked, Is it not possible to avoid the undue stresses of life for these highly sensitized persons? May they not live a life of serenity and peace under the protective influence of the home or the monastery, or be permitted to go back to those levels of easy environment if they are threatened with a break in their emotional and stressful existence in later life? We see in the preceding case that practically our patient did get on fairly well until it was no longer possible to maintain such a carefree existence. Had it been possible to continue this environment, undoubtedly she would not have become epileptic—but such a life is not humanly possible. Every one knows we have already practically arranged to lower the life demands on such persons by allowing them to regress to colony or farm life with its simple rural settings. But the issue in such a public beneficence is but half met. For even in the best regulated sanatoriums or farm colonies there are bound to be heartaches and personal contacts with others similarly afflicted and similarly endowed. Then if a "packing in cotton" for such persons is neither practical nor even experimentally possible, the compromise must be sought, that of reducing the stresses and at the same time teaching the individual patients how their difficult traits of character may be eliminated or modified. In this plan of living they may gradually assume a more or less comfortable and endurable existence. We know, furthermore, as MacCurdy has pointed out, that without these objectizations of love and sympathy and contact with some degree of life stresses, the epileptic "is relentlessly pursued by the nemesis of intellectual degradation. Born social, not solitary, beings, our mental capacity seems dependent on our retaining a vital interest in our fellows. The bonds that unite all human beings are not merely essential to the species, they are an integral part of the individual. These lost, the personality, even mentality, is lost. To put the matter in lay terms: We must love, not merely be loved; we are under compunction to love or cease to be ourselves, cease even to think."

For several years I have seen epilepsy in a number who have taken holy orders and who live in as carefree an environment as can be found. It is interesting to note in detailing the history of such a patient that the real fault in the defective evolution of the epileptic personality that produces the lasting harm is not essentially in the facts of life themselves, but in the mental attitudes that the patient takes toward life. Hence the real and long continued effort we should aim to maintain for such patients is to adapt and adjust them to as adult a life as is compatible with health.

CASE 2.—A Catholic priest, aged about 30, who had genuine epileptic attacks for five or six years occurring irregularly every one or two months, has now had no attacks, either petit mal or grand mal, for over a year. He is quite sound physically. Prior to his first attacks he had been living, to quote from him, "in a very uncongenial atmosphere and had felt a lot of dissatisfaction as things were, and could not express this feeling, or didn't. Finally [he] became nervous and run down, and ended in having these spells." His relatives stated a year ago when he was first brought for examination that he appeared more "tense" at that time than he had for some time before. He was more anxious in his manner. Disappointments upset him more easily. At the inception of this increased tension and state of irritability, or soon after, he had more frequent and severe attacks. Since the severe and more frequent seizures, he has shown a poorer memory and some marked emotional deterioration in conduct and adaptability. He was found to possess a highly unstable and impressionable mind, extremely sensitive and egoistic. He was an irritable, restless child given to enthusiasms and little concerned with practical affairs either in study or in consecutive purpose. He walked and talked in his sleep. He was sensitive, shy and timid, and "afraid of everybody." Having been considered a delicate child, he was allowed his own way in everything, and was quite spoiled in attentions from parents and friends. Even when a man frowned at him on the street he used to run to the protection and comfort of his mother. He relied on her or his older sister for guidance until 8 or 9 years of age.

Underneath all these fluctuations in moods of crying and timidities he was always firm in his view, and had to be bribed to meet any unpleasant ordeals of child life. At puberty he made renewed efforts to suppress these badly adapted traits, and became more nervous and fatigable. He grew up moody, reserved and very sensitive. Extra physical exercise enabled him to compensate for some of these personal difficulties. Under the severer demands of the preparatory school he grew more irritable and less able to compensate further in the enforced study and routine of the school. Later, in the more precise demands of the confessional, where he stayed constantly to hear the woes of others, and in the physical confinement and concentration of mind demanded of him, he grew extremely irritable. He said: "If any one touched me it was like an electric spark; I would go all to pieces. My mother was quite like me in similar life difficulties. I am like her in temperament." Even the restricted diet on fast days grew irritating, and slight epileptic vertigos occurred for the first time after these limitations. Forced still more definitely to pastoral and church duties, he grew decidedly worse. There was little time for physical sports and literary inclinations, and the whole life became a burden to him. By preference (he found, of course, that he enjoyed best health at it also) he liked to engage in the free and spontaneous church work among the poor. This gives him most satisfaction, and while at it he is never irritated or "run down" and has no attacks.

From the foregoing it is quite obvious what the main lines of treatment should be. He was required to give up his sedatives, cease from indoor activities, particularly the confessional, and take up a teaching position in a parish where he could follow his literary interests and engage in very active athletics. All this was done with the cessation, as stated, of his attacks for the past year. His physicial and mental health are quite restored in that he is happy and contented in the new order of life.

The next case is by no means so favorable in prognosis. It has been only recently observed, and is given here to show the gradual evolution of a character handicapped by a slight but enduring brain lesion which probably makes the sequence of an epilepsy in such an individual mandatory instead of optional in another not so handicapped. Although the epilepsy is

1. Clark, L. P.: A Personality Study of the Epileptic Constitution, Am. Jour. Med. Sc., 1914, **145**, 729; A Study of Certain Aspects of Epilepsy Compared with the Emotional Life and Impulsive Movements of the Infant, Interstate Med. Jour., 1915, **22**, 970; Clinical Studies in Epilepsy, Utica State Hospital Press, 1917.

based on an organic lesion, the sequential epilepsy takes on the development not essentially different from that of genuine idiopathic epilepsy. Instead of postulating that essential epilepsy is probably organic because it is akin to symptomatic epilepsy in its manifestations, one might bring forward data to substantiate the reverse view, that the epilepsy develops even in the infantile hemiplegias as a result of certain character and stress defects superimposed on a stationary lesion. We know that only about half such patients become epileptic in later life, and those, too, who are most unstable and poorly developed to meet the stresses of life.

CASE 3.—A man, aged 32, developed epilepsy only two years ago. The majority of attacks are petit mal in character. His paternal grandfather was epileptic and had violent tempers and was quite eccentric. Although a rather peculiar and overserious child, he showed little defect in the development of his personality until about 17 years old. At that time he lost interest in his studies and seemed unable to "get any more ideas in his head." After an unsuccessful business school training he went into the government messenger service, has not risen much above this class, and now does some routine clerical work. He is solitary in habit, and always takes his vacations alone in travel. He has always been stubborn, intolerant and cynical about the aim and purpose of his relatives and friends. He never took on any form of discipline, nor would he listen to any criticism without "flying off the handle." Naturally morose, sullen and unsympathetic, he made few friends. He was rather penurious and untactful as he grew up, and gradually became suspicious and resentful. He holds grudges for years, and never seems able to "forgive or forget." As a young man he acquired a secret dislike for the other members of the family, and this so engrossed him that there seemed no room for him to get in friendly contact with others. In new environments he seemed on the point of making a better work and social adjustment; but as he soon failed to gain all he thought he should in these new settings, he became unfriendly to his associates, criticized them severely, lost interest in the new work, failed to cooperate industrially and socially, and soon fell into his former routine of sullenness and moroseness and solitary way of living. Gradually he became so demanding as regards order and precision in his living quarters that no one dared to face his dislike in handling things or even entering his room. He never wanted to be other than the leader in games and sports, and when this desire was not granted, he would quit and go off by himself. He rarely had distinct quarrels, as contact with his fellow schoolmates was merely casual. He planned his vacations most precisely months in advance.

When he became a man and had to meet some of the business and social difficulties, he became more irritable and quick tempered. His face would flush and grow dark, and he would then "boil with rage inside"; and if further pushed, he broke into intense and abusive rage. With all this evidence of arrest in the development of his emotional life, and as he grew more egoistic and rigid in his demanding attitude toward others, he became more sensitive and day-dreamed more. As he had musical taste, he often played and sang off the conflicts. A little later in life, when these began to fail and he deteriorated more, he took a more superficial outlet of reading, and went to moving pictures. He gradually lost his little sense of humor, and now no one dares to joke him or assume even a friendly or familiar attitude, lest it provoke unpleasant results. His attitude toward the opposite sex was always matter of fact, and as girls found him stiff and unnatural, his social contact with them was soon lost. Being cut out of friendly contact with other companions, he developed solitude the more, grew more sluggish mentally and physically, ate heavily, and had a more or less permanent "grouch" about his job and his business associates. To compensate for this phase before his attacks finally began, he took up photography, went on solitary walks in the country, and developed his own pictures. But as he never joined others in the art and work, his results were very mediocre. He allowed no one to show or demonstrate his errors or how to avoid them. He was proud of his work, but it was so indifferently poor that those who did not know him told him frankly what they thought of it. Now he keeps the whole interest to himself. He had the customary piety of the epileptic, but of late this has failed in even cursory interest. He takes little alcohol and tobacco, as he is quite sensitive to any such indulgence. Just before his petit mal came on, all his business and social stresses became more intense, and he was apparently incapable of making satisfactory personal relations. He did not sleep well, and he had disturbing dreams. It became harder for him to adjust himself to his associates and the home conditions, and he began to deteriorate emotionally while his intellectual capacity showed little change.

The patient has been but recently considered; hence at this time I can only outline a proposed line of treatment. The case as reported is a common one of a hereditarily disposed person who unfortunately contracted a slight, now hardly discoverable, hemiplegia in childhood. He developed his poor adaptive social instincts but little, and the few he did apparently came to an arrest in early adolescence. Since that time one may say he has slowly been deteriorating in habits and conduct socially, steadily crystallizing, becoming rigid in taking on new adaptations, and losing the few he had. Inexorably, some point was sure to be reached at which he could no longer go on even semihealthfully, and then he took on the epileptic reactions true to the type of his fundamental make-up.

What can be hoped for in such a person's future? Obviously, not a cure. A betterment should be and can be fairly hoped for. It must be done along the lines that I have already outlined at length in previous studies.[2] His photography must form the nucleus of approach, and gradually around that and its correlates we may begin to build seriously and painstakingly for a possible physical and mental restoration.

CASE 4.—A married woman, aged 33, has had only four typical grand mal attacks. The first one appeared two years ago and the last a few months after. None has occurred for over sixteen months. The case is not reported, however, to show the present free interval as a test that the free period necessarily is a permanent arrest, but to demonstrate the two-sided advantages of the combination of physical and mental therapy, and the character of readjustment brought about as the result of such treatment.

The patient was a fairly normal, healthy child, but could never overcome her intensive dislike for the contact of rough fabrics. When 3 or 4 years old, although just before she had been happy and in free play with other children, as soon as the rough underclothing was put on she would cease to play, sit down, and remain "in misery for a whole day." Her complaint of the unpleasantness of such clothing was considered a mere whim, and as such disregarded. Even the sight of such clothing near her to be put on when she got up "made her ill." She simply could not accustom herself to it, and it began to hamper her associations with other children. She had to have other styles of cloth and fittings than they—this caused her to be "different" from them, and hence she felt out of touch with them. As she grew up she wanted to go out with young people only when she could wear long dresses, being tall and a bit awkward; this greatly narrowed her free objectization of her friendly companionship with others. The whole life was "poisoned" in not being able to surmount this sensitiveness of the skin. "It was a nightmare and an obsession with me; it made me self conscious and constrained in many social ways."

Social life not being an outlet to her, she looked forward to an intellectual career at college, and social work among

2. Clark, L. P.: Clinical Studies in Epilepsy, Utica State Hospital Press, 1917, Section V, Experimental Study of the Mental Restoration of a Deteriorated Epileptic, and Section VII, Mental Therapy of Essential Epilepsy.

the poor afterward. Although in the latter life she still suffered from her skin sensitiveness, it hampered her personal activities less because the demands of fancy dress were less. That it, however, had seriously limited her social freedom and enjoyment not a little was shown in the gradual development of an egocentric attitude at the engagement and marriage. At the consummation of the latter, which was rather cold and distasteful to her, she had to make new adaptations of bedclothes and personal clothing. The extra sensitiveness of the skin then changed or broadened out, including bodily contact with the husband and the very hot summer weather. The latter was a continued summer-long complaint. As she says, "I was constantly fussing about my clothes, the weather, and everything with which I was in contact." The sensitiveness then broadened to all sorts of things in the environment not at all concerned with the former skin annoyance. She became undernourished, slept poorly, and finally developed a severe but unrecognized anemia. Then the whole environment of home, child, husband and friends became an irritable, intolerable burden, and one night in the midst of it all she had a severe grand mal attack with tongue biting and voiding. After the second series of attacks a few months later, she was brought under treatment.

Of course, every principle of physiotherapy was requisitioned, including rest, diversions, baths and regulation of diet; but the main issue in treatment turned on freeing her from the nightmare-like entanglements of bodily and mental discomforts that so obsessed her whole life. In the analysis of them (the process was simple mental analysis, not psychanalysis), each phase of her special stress and irritations was reduced and traced back to her primary defect of extra skin sensitiveness and its gradual growth and dominance over her entire after-life. Of course the skin sensitiveness is not really removed, but there is an awareness of the bodily fault and how it may involve her in apparently unrelated personal stress and conflicts. This knowledge has given her the power of properly adjusting herself to it. What years of misery she might have been saved if the defect had been recognized, and proper adaptive training had been given in childhood! The significance of this singular defect of infancy has long since been commented on by Preyer and others in the growing sensitive child. But here its successive reappearance at different stages in our patient's life and its hampering influence at the different levels of development up to and including adulthood are exquisitely illustrated. One cannot doubt that the defect was an inheritable one and must have been a source of annoyance from birth. It grew to disastrous consequence only in later life when it made life a burden by attaching itself to all sorts of unrelated phenomena of her expanded life and its opportunities.

CONCLUSION

One may justly say that in Cases 1, 2 and 4 the prognosis is fairly good, while in Case 3 one can probably hope only for betterment.

I cannot too earnestly urge that the epileptic as well as the epilepsy be the future object of our earnest treatment, and this, too, by our studying as carefully as possible the fundamental make-up of the primary life endowment, and basing our therapy largely on that.

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Intravenous Treatment of Internal Hemorrhage.—According to an abstract in the *Nederlandsch Tijdschrift*, **2**, 107, E. Ebstein reports favorable experiences with hemorrhage from the lung treated by intravenous injection of a hypertonic salt solution. He adds 0.02 per cent. calcium chlorid to a 10 per cent. solution of salt, having the mixture put up in ampules containing 2 c.c. He injects as a rule about 5 c.c., and repeats several times, even after the bleeding has stopped. He has also found it valuable in internal hemorrhage in the nose, stomach, intestines, etc., and commends it for cases in which calcium chlorid or gelatin by the mouth do not speedily help. Ebstein's article appeared in the *Münchener medizinische Wochenschrift*, No. 25.

PREGNANCY AND PULMONARY TUBERCULOSIS

WITH A REPORT OF ONE HUNDRED AND THREE CASES *

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The incidence of pregnancy and tuberculosis is a frequent one. In 1913, Bacon estimated that 32,000 tuberculous women become pregnant annually in the United States, and added that between 44,000 and 48,000 women of the child-bearing age die of tuberculosis every year.

Among those who see much of pulmonary tuberculosis, it is a well recognized fact that, among women, this disease not uncommonly first manifests itself during pregnancy or shortly after the birth of the child. Why a tuberculous process should become active during pregnancy is not altogether clear, unless it can be ascribed to an added strain on the woman's resistance. In the cases following confinement, the violent exertion that characterizes many labors is commonly accepted as the probable cause of arousing to activity a latent lesion, the exertion under these circumstances being as harmful as mountain climbing or other forms of violent effort. Whether it is coincidence or whether pregnancy has any influence in rendering a dormant tuberculous process active may be debatable; but the fact that the association is of relatively frequent occurrence is common knowledge. For instance, among the women in the White Haven Sanatorium at the present time there are twenty-nine who have borne children; of this number, six, or 20.7 per cent., date the onset of their tuberculosis from a pregnancy or shortly after the birth of a child.

Furthermore, the large number of women of child-bearing age who die of tuberculosis annually makes it apparent that during this age period the combination of tuberculosis and pregnancy is always a possibility. Unfortunately, this fact is not sufficiently appreciated; and unless the woman has definite pulmonary symptoms when she consults her physician regarding her pregnancy, little thought is given to her respiratory system. Too often the pregnancy is regarded as a normal physiologic process and, aside from examinations of the urine and blood pressure, little or no attempt is made to obtain information as to the woman's general health or her previous medical history. Many of the women who first manifest tuberculosis at this time give a history of having had a small hemoptysis, an attack of pleurisy or other symptoms or group of symptoms in the past that renders the possibility of latent tuberculosis being present very strong. Failure to acquire this knowledge of the patient's past illnesses, or failure to give such information due consideration not infrequently leads to disastrous results.

The history of pregnancy in the tuberculous woman is an interesting one. Years ago, pregnancy was supposed to exert a favorable influence on the course of pulmonary tuberculosis. This was doubtless owing to the fact that pregnancy in itself tends to increase the weight of the individual, and also that during the early

* Read before the Philadelphia Obstetrical Society, Oct. 3, 1917.
* A preliminary report of some of these cases, and references from some of the literature utilized in this report, appeared in the American Journal of Obstetrics, January, 1916.

months of pregnancy, gestation is less likely to result in deleterious changes to the tuberculous person than during the latter half of pregnancy. The fact that the cases were not closely followed is probably the chief reason for such a view ever having been held.

For studying such a question as this, a review of the literature is of especial value; and particularly valuable are those reports pertaining to series of cases in which the patients have been observed over a definite period of time. The following is a condensed summary of some of the most important articles appearing on this subject prior to 1917:

Lebert found that pregnancy had a bad influence on the course of tuberculosis in 75 per cent. of cases. Deibel found this to occur in 64 per cent. of cases, and von Rosthorn in 70 per cent. Von Bardeleben found this to be true in 71 per cent., and states that 47 per cent. of these patients died during pregnancy, labor or the puerperium. In all von Bardeleben's mild cases there was more or less, sometimes only slight, aggravation of symptoms during pregnancy or the puerperium, and in most of these cases, the acute symptoms subsided, at least to some extent, in from eight to twelve months. In his series, 16 per cent. were presumably closed lesions when the pregnancy occurred, 12 per cent. were severe or acute cases, and all exhibited an aggravation of the disease, especially toward the close of the pregnancy. Heiman's collected statistics showed that pulmonary lesions grew worse during pregnancy in 73.4 per cent. Pankow and Kupferle found that 94 per cent. of their patients with active pulmonary lesions grew worse. Reiche observed ill effects in 77 per cent., and Freund in 38 per cent. of cases. Fellner and Schauta found that a relapse occurred in 68 per cent. of quiescent or mild chronic cases in which the patients had been well for a considerable period prior to pregnancy.

The findings of Pradella (quoted by Schauta) were even less favorable. In a series of 1,035 cases, he found that 95 per cent. of the patients grew worse. Kunreuther also emphasizes the dangers incident to this condition. Marletti found that 50 per cent. grew worse during pregnancy; Kamina, 50 per cent.; Schauta states that in tuberculous guinea-pigs, pregnancy distinctly shortens the life of the animal. In the animal experiments of one of us (Norris), this was also found to be the case, and especially did this occur in the period following parturition. Schauta quotes the authorities from German sanatoriums to the effect that only 25 per cent. of tuberculous women were able to work four years after childbirth, and that not all of these cases were by any means cured cases.

Albeck of Norway found that of sixteen patients, all of whom were treated in private sanatoriums, and were therefore presumably the recipients of excellent treatment, six died within fifteen months. Essen-Müller reports that death or aggravation of symptoms occurred in 50 per cent. of his series of sanatorium patients. Schauta states that in at least 75 per cent. of all cases, the disease was aggravated as the result of the pregnancy. Ebeler, from a study of thirty-two cases, recommends the immediate emptying of the uterus unconditionally in every stage of tuberculosis and in any month of pregnancy. Parry reports that in her series of thirty-eight cases, all of which were of the severe type, 50 per cent. of the patients died within two months after labor. Fellner observed a general maternal mortality in 9 per cent. Osler quotes Dubois to the effect that "if a woman threatened with tuberculosis marries, she may bear the first accouchement well; the second with difficulty, and the third never."[1] Malsbary found the highest mortality among primiparas.

Bacon estimates that 33 per cent. of tuberculous women who become pregnant die in less than one year following labor. Hoffman found that the greatest mortality among tuberculous women was between the ages of 15 and 45 years (195.5 per hundred thousand population), indicating that many women die as the result of pregnancy and childbirth. Schlimpert asserts that the greatest number of deaths from tuberculosis during pregnancy occur in childbed (75 per cent.).

In a review of the foregoing statistics, a number of facts must be taken into consideration. A certain number of patients with pulmonary tuberculosis will exhibit exacerbations even when not pregnant, and this proportion must be deducted from the figures here given when the influence of pregnancy on the course of the disease is considered. On the other hand, statistics compiled from maternity hospitals from which patients are discharged in two or three weeks after labor, no further track being kept of them, are misleading in that no note can thus be made of the exacerbations occurring in the late puerperium or during lactation.

REVIEW OF EIGHTY-FIVE CASES

	No.	Per Cent.
Total number of cases (from the Henry Phipps Institute)	85	...
Improved	5	5.8
No change	69	81.1
Worse	2	2.3
Deaths	6	7.0
Pregnancy interrupted (therapeutic abortion)	3	3.5
Premature labor (spontaneous)	2	2.3
Miscarriage	4	4.0
Infants alive	63	...
Infants dead	13	...
Infants stillborn	1	...

We have been unable to trace four patients.

The review of eighteen cases seen in the obstetric practice of one of us (Norris) confirms the foregoing statistics. Of these patients, 5.55 per cent. were apparently improved; 22.2 per cent. were unchanged; 61.11 per cent. were worse and 11.11 per cent. died either during the course of the pregnancy or the puerperium. As will be seen, these figures coincide closely with those found in the literature, but are not in accord with those observed by us at the Henry Phipps Institute, where in a series of eighty-five cases, two patients were worse and six died, or about 10 per cent. in which the pulmonary lesions were aggravated. Why, then, is this apparent discrepancy? A study of the statistics, as they appear in the literature, shows that the majority of these reported cases have not been reported by obstetricians. The majority of pregnant women are delivered either by the general practitioner or by the midwife, and only a relatively small proportion are seen by the specialist. It naturally follows that the specialist is called in consultation in the worst cases, and that the worst cases are likely to be sent to hospitals for delivery, where again they fall into the hands of the obstetrician. Thus the obstetrician is especially prone to see those patients that are doing badly, and this is doubtless a factor in the high mortality and morbidity as usually reported in this condition.

A review of the cases seen during the past five years at the Henry Phipps Institute shows that eighty-five

1. Some authorities attribute this statement to Louis.

pulmonary tuberculosis patients who have been pregnant have been observed.

A study of these results shows that, as previously mentioned, two patients were worse and six died. Pregnancy was interrupted three times on account of the pulmonary condition; of these, two patients were improved and one showed no change. Undoubtedly, a therapeutic abortion would have been performed on a few more patients but for the fact that many were seen for the first time late in their pregnancies when emptying of the uterus has little effect on the course of the pulmonary lesion. Cesarean section was done in one case:

A woman with bilateral ulcerated lesions, frequent hemorrhages, hyperpyrexia, and rapid and weak pulse, in whom physical examination revealed evidence of the last stages of pulmonary tuberculosis, and the slightest effort was prone to bring on hemorrhage, was referred to the maternity hospital with the hope of nursing her along until pregnancy was so far advanced that a live child might be obtained. When within two weeks of term and after having been under observation for about six months, the patient's general condition became so bad that a fatal termination was expected almost hourly. With the hope of saving the child's life, spinal anesthesia was given and a rapid Cesarean section performed. The mother died a few hours later. The child was in good condition and left the hospital six weeks later in evident health, and had been gaining weight normally. At birth this infant weighed 7 pounds, and there was no cause, as far as we could determine, why it should not do well. At 6 weeks of age this infant was sent to a nursing home, where it subsequently died from an unknown cause.

In three of our cases, spontaneous premature labor occurred; one of these infants was dead, and the other children did well. Of the eighty-five cases, sixty-nine, or 81.1 per cent., showed no change as result of their pregnancy. The cases from the Henry Phipps Institute consist of about the ordinary run of pulmonary tuberculosis, and are not of the class usually seen by the obstetrician. These statistics, therefore, are of unusual value. We would especially point out the danger of drawing conclusions regarding the effect of pregnancy on the tuberculous individual from a small series of cases. Not only should a moderately large series be utilized for study, but the cases should be followed for a period of some months subsequent to delivery. It has been impossible in our cases to arrange them in periods of time. In some of the cases reported, the patients were recently delivered, and others had had one, two, or even three children.

Of the eighty-five patients, sixty-three infants are alive today, and fourteen have died. Much difference of opinion exists as to whether the infant of the tuberculous woman is or is not a hereditary weakling. It is our belief, based on a study of these cases and of a moderately thorough review of the literature pertaining to the subject, that these infants are not unusually weak, certainly not more so than would be expected from ordinary anemic mothers. Of course, taking a hundred infants born of tuberculous mothers and a similar number born of healthy sources, the latter would undoubtedly be the stronger set of children. The point we wish to make is that while the mortality in children born of tuberculous mothers is unusually high, this is due not so much to the fact that the children are in bad condition when born, but largely to the fact that they are often motherless, are usually bottle fed, and generally do not enjoy the same care as does the child with a healthy mother.

THE PROPER PROCEDURE

After all, the important point in this subject is the question of what should be done with the tuberculous pregnant woman. Undoubtedly, tuberculous women should be advised against conception in the ordinary cases. As a rule, however, the physician is not consulted until pregnancy has taken place. What, then, shall be his course? Time does not permit extensive discussion of this point, but we may thus summarize our views:

Prior to the fifth month of pregnancy, the uterus should be emptied in all cases which show either advanced or active lesions or in which laryngeal involvement develops. This point should be determined not only by the obstetrician but also by a skilled internist, familiar with pulmonary tuberculosis. After the fifth month, little advantage is gained by emptying the uterus; and it would be best to allow these patients to go to or nearly to term. Labor should be made as easy as possible. With this end in view, induction of premature labor is often advisable. Forceps should almost always be employed, and especial care should be given to the question of anesthesia. In nonactive lesions of a moderate grade, ether, in the opinion of one of us, is the safest mode of producing the anesthesia. The question of the use of spinal anesthesia in these cases naturally arises, and if this form of anesthesia has any place, it is certainly in cases of advanced pulmonary tuberculosis when anesthesia is absolutely necessary. Immediately after birth, the child should be taken from the mother and should not be allowed to nurse. The dangers of infection to the child are very definite ones. In rare instances, tubercle bacilli have been demonstrated in the milk of women suffering from pulmonary tuberculosis. A greater danger is the contamination of the nipples or child's mouth with the tubercle bacilli by the mother's hands. Even were it not for the fact of the danger to the infant from nursing, artificial feeding should be resorted to, as our efforts should be to conserve the mother's strength in every way possible. After delivery, the dangers to the mother are by no means passed. Indeed, many authorities consider the puerperium the most hazardous period.

The problem of the pregnant woman who is also tuberculous is often a difficult one. Many maternity hospitals do not admit such patients, or if they do it is only after considerable persuasion has been used, and then only a week or so before the expected confinement. The same thing is true of the tuberculosis sanatoriums. Many of these institutions distinctly specify that they will not admit such patients. The result is that the social service departments are in a quandary as to how to dispose of them. In the interests of these women, the majority of whom are amenable to improvement so far as the tuberculosis is concerned, it is highly desirable that both the maternity hospitals and the tuberculosis sanatoriums be encouraged to care for them.

CONCLUSIONS

1. The combination of pregnancy and pulmonary tuberculosis is a frequent one.

2. Pulmonary tuberculosis exerts little or no influence against conception.

3. Pulmonary tuberculosis exerts but little influence on the course of pregnancy, and except in the advanced stages exerts little or no influence toward causing abortion, miscarriage or premature labor.

4. About 20 per cent. of mild, quiescent pulmonary tuberculosis, and 70 per cent. of more advanced cases exhibit exacerbations during pregnancy or the puerperium.

5. Marriage is worse for tuberculous women than for tuberculous men, owing to the dangers incident to pregnancy.

6. Unless the pulmonary lesions have been quiescent for a moderately prolonged period, tuberculous women should not marry.

7. Tuberculous women should not become pregnant unless the disease is in the first stage, and has been quiescent for a minimum period of two years.

8. It is as yet impossible to determine with certainty which patients will bear the added strain of pregnancy well and which badly. We must individualize our patients. Moderately extensive lesions, recent activity, the development of secondary lesions, especially laryngeal involvement, loss of weight, fever, hemorrhage, sweats, lack of vigor, and inability to obtain proper treatment are ill omens, whereas the reverse are more favorable.

9. Prior to the fifth month of pregnancy, the uterus should be emptied if the disease manifests evidence of becoming active, or if the lesions are extensive ones or laryngeal involvement occurs. Curettage during the first six or eight weeks, and in the latter cases vaginal hysterectomy, are as a rule the preferable methods. Interruption of pregnancy does not insure an amelioration of the pulmonary condition, but does definitely improve the prognosis. About 65 to 70 per cent. of patients, prior to the fifth month of pregnancy, will be definitely improved by the emptying of the uterus as soon as acute symptoms arise, provided proper after-treatment is carried out. Late intervention has given less satisfactory results. Sterilization is rarely justifiable.

10. After the fifth month of pregnancy, it is generally advisable to treat these patients expectantly. Labor should be made as easy as possible. For this end, induction of premature labor two weeks before term is often advisable; rarely, if ever, should they be allowed to go beyond term. At labor, forceps or version is usually indicated.

11. Infants should not be nursed by tuberculous mothers, and should be especially guarded from infection.

12. Hygienic and dietary treatment should be employed at all times. These patients should be kept under close observation and should be examined by a competent internist at regular and frequent intervals.

13. In the great majority of cases the tuberculosis precedes the pregnancy. Even in those cases in which the symptoms are first observed during pregnancy, infection has generally occurred prior to conception, and an exacerbation during pregnancy has directed attention to the pulmonary condition.

14. We especially urge that all pregnant women giving a history at all suggestive of pulmonary tuberculosis be subjected to a thorough examination by a competent internist at the earliest possible date. Only in this way can the proper treatment be instigated at the time when it is most valuable.

15. It is doubly important that tuberculous pregnant women shall be given the same care as the nonpregnant person as far as rest, hygiene, diet, etc., is concerned.

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SYPHILIS AS A CAUSE OF DIABETES MELLITUS

RELATION OF WASSERMANN TEST AND OF LIPOIDEMIA

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The startling pronouncement of Warthin and Wilson[1] in 1916 that syphilis is probably a frequent cause of diabetes mellitus and that the Wassermann test and clinical history, when negative, are inconclusive evidence of the absence of syphilis in diabetes is of importance to clinicians who have to do with either disease. When it is considered by various authorities that there are from 100,000 to 1,000,000 diabetics and about 3,000,000 syphilitics in this country, it will become obvious that the relation of these two highly important diseases requires careful study. My experience as a clinician does not qualify me to pass judgment on the validity of the Wassermann reaction as an indicator of syphilitic infection in the living. It is generally believed, however, that when properly controlled, it is by far the best diagnostic procedure for the purpose at our disposal. Furthermore, it seems scarcely credible that there can be such a discrepancy between the actual figures and the clinical evidences of the disease as is elicited by history taking and the Wassermann test, as suggested by Warthin's study.

Rosenbloom[2] states that he has been able to demonstrate syphilis clinically in seven of his sixty-two cases of diabetes, or 10.3 per cent. He cites the experience of a number of other clinicians in which the occurrence of syphilis in diabetes is even less frequent. Joslin[3] states that only 8 per cent. of eighty-nine diabetic cases at the Peter Bent Brigham Hospital, in the service of Walker and Haller, gave positive evidences of syphilis. In his own work, six patients, of the 107 examined, reacted. These cases were selected because of suggestive histories. In my experience, the proportion is even smaller, as will be seen by the data in Table 1.

TABLE 1.—REACTION OF DIABETICS TO THE WASSERMANN TEST *

	Number
Diabetics tested with the Wassermann reaction	144
Diabetics giving a negative reaction	126
Diabetics giving a positive reaction	4
Doubtful reactions	1
Cases in which blood serums were too anticomplementary	13

* The Wassermann tests in this study were made in the laboratory of the New York State Department of Health by Miss Anna I. van Saun, serologist, through the courtesy of Dr. Augustus B. Wadsworth, director.

Many clinicians have conducted inquiries into the validity of the Wassermann reaction as a diagnostic measure. Some of these studies are briefly mentioned. In a comparative examination of the Wassermann reaction and the suspected syphilitic placenta, Slemons[4] quotes the work of Schmitt and O'Shansky, whose combined studies show that in 95 per cent. of 345 cases, there was absolute agreement in diagnosis. He cites the experience of other workers in this field, wherein the Wassermann test was positive in from 87 to 100 per cent. of known syphilitics. He concludes with the statement that in a comparative study of the Wassermann reaction and the placental findings 95 per cent. of 360 consecutive confinements indicate that the

1. Warthin, A. S., and Wilson, U.: Am. Jour. Med. Sc., 1916, **152**, 157. Warthin, A. S.: Ibid, 1916, **152**, 508.
2. Rosenbloom, Jacob: The Relation Between Diabetes Mellitus and Clinical Syphilis, THE JOURNAL A. M. A., April 28, 1917, p. 1232.
3. Joslin, E. P.: Treatment of Diabetes Mellitus, Ed. 2, Philadelphia, Lea & Febiger, 1917, p. 292.
4. Slemons, J. M.: Am. Jour. Med. Sc., 1917, **153**, 212.

tests agree absolutely. Kolmer[5] states that in about 96 per cent. of the cases of active teritiary syphilis, the reaction was positive. In from 75 to 80 per cent. of the cases of latent syphilis, and especially in those of long standing and without treatment or with indifferent treatment, the Wassermann test was positive. In a study of postmortem Wassermann reactions, Graves[6] reports that in his series of eighty-four cases with apparent syphilitic anatomic lesions, seventy-six, or 90.4 per cent., gave a positive reaction. "Only 7 per cent. of 282 cases showed negative reactions in the presence of anatomic lesions (aneurysms) characteristic of syphilis."

The literature affords much support for the belief that there is close conformity between the serologic and anatomic findings in the study of syphilitic infection. No warrant is found for the belief that latent syphilis can exist in any large number of persons whose blood serums show a negative Wassermann reaction. Warthin's limited investigation is the only study suggesting such a possibility. The insufficient serologic data in his investigation largely negative his conclusions. In his series of forty-one cases of general syphilis, there were twenty-five cases in which syphilis was either denied or not suspected clinically. Wassermann tests were made on fourteen of the patients, and ten proved negative. No Wassermann tests were made on the remaining eleven. In the entire series of forty-one cases, no Wassermann tests were made on seventeen patients, nine cases gave positive reactions, and the remaining fifteen cases reacted negatively. No information is afforded as to who made the serologic investigations, or as to the conditions under which they were made. These facts lessen the value of his otherwise exceedingly important paper in drawing conclusions as to the value of the clinical means of diagnosticating syphilis. Not one of Warthin's six diabetics in whom histologic evidence of syphilis was found at postmortem was given the Wassermann test. The absence of this information is regrettable, because without it one is disposed to look on Warthin's cases as being both extraordinary and exceptional. This conclusion is strengthened by the large amount of evidence showing that the Wassermann test in the hands of experienced workers is positive in from 80 to 90 per cent. of the cases of demonstrable syphilis, and by the experience of those clinicians who have examined by this means several hundred diabetics and have found few reactors.

For a number of years, I have had a special interest in the subject of diabetes. With the hope that, out of a large and increasing experience with the disease, something of value might be learned by carefully recorded observations of both normal and pathologic phenomena, I have made a practice of tabulating, from the histories of cases for purposes of comparative study, all observable abnormal changes in body structures or functions. From this record, there have been selected such data as would afford evidence of disturbances or lesions commonly seen in syphilis, to determine whether or not it is possible to say from the clinical examination of these patients that they had syphilis.

The data considered in the following paragraphs were all from diabetics who reacted negatively to the Wassermann test.

5. Kolmer, J. A.: Syphilis and Life Insurance, THE JOURNAL A. M. A., May 6, 1916, p. 1437.
6. Graves, S.: Jour. Immunol., 1916, **2**, 53.

In 124 cases, routine examination of the following reflexes was made: pupils as to equality and reaction to light, patellar reflex, Romberg's sign, coordination, tremor and gait. In eighty cases there were no disturbances of any character in the reflexes. In thirty-six cases, there was a disturbance in the quality of either the patellar or the pupillary reflex. Not one case of Argyll Robertson pupil or positive Romberg sign was discovered, nor did a single case exhibit ataxia or lack of coordination, and there was only one case showing noteworthy tremor. In this series, evidences of syphilis of the central nervous system are lacking.

In 122 cases, the patients were carefully examined for enlarged glands. In thirty-eight cases, the cervical glands were distinctly palpable; but aside from an occasional involvement of a single gland in other parts of the body, it may be said that there was absolutely no evidence of adenitis. Of the thirty-eight patients exhibiting enlargement of the cervical nodes, thirty-three had obvious and serious mouth infection involving either the teeth, or the tonsils, or both. Cultures of many of the nodes were made, and various strains of streptococci were isolated. It is highly improbable, therefore, that syphilis is the common factor affecting these glands.

In 126 cases, careful notes were made as to the condition of the peripheral arteries. In thirty-four cases, there was an obvious sclerosis, while in the other ninety-two, no change was detected. The cause of arterial degeneration in diabetes is not as yet understood. Syphilis may be a factor in its production. It is not unlikely that other infections and intoxications may initiate it. Arteriosclerosis has been observed to follow typhoid fever, and there is reason to believe that any persistent low grade infection may cause it. Of the thirty-four patients in this series exhibiting abnormal sclerosis, one had acromegaly with high blood pressure, another had a poisonous thyroid, a third had tuberculosis of long standing, and twenty-six others had severe mouth infection. The ages of these persons are given in Table 2.

TABLE 2.—AGES OF DIABETICS EXHIBITING ARTERIOSCLEROSIS

Ages, Years	Number
From 21 to 30, inclusive	2
From 31 to 40, inclusive	5
From 41 to 50, inclusive	8
From 51 to 60, inclusive	8
61 and over	11
	34

Some families seem to have a predilection for vascular degeneration. Arteriosclerotic disease may characterize several generations. This has been referred to in another of my articles.[7] In the absence of all other evidence of syphilis, and in the presence of known infection which may induce sclerotic changes in blood vessels, the arteriosclerosis in this series can scarcely be advanced as proof of syphilitic involvement.

A series of blood pressure determinations was made in 106 cases. Of these, fifty-two patients were normal, thirty-five had low blood pressure, and nineteen had high blood pressure. Of the thirty-five patients with low blood pressure, twenty-six had severe diabetes and were on very low diets. Twenty-three of these had severe mouth infection. Of the nineteen patients with high blood pressure, one had a poisonous thyroid,

7. Williams, J. R.: A Study of the Significance of Heredity and Infection in Diabetes Mellitus, Am. Jour. Med. Sc., 1917, **154**, 396.

one had cirrhosis of the liver, and twelve had evident renal lesions.

In general, therefore, it may be said that a critical clinical examination of a large number of diabetics does not lend support to the hypothesis that syphilis is a prominent causal factor.

In the course of the study of diabetes, it is the practice in our clinic to make routine examinations of the blood for cholesterol, in which the method of Bloor is employed. The data afforded by these investigations are of interest and importance in this study. This information may be thus summarized: Cholesterol determinations were made on eighty-nine diabetics giving negative Wassermann reactions. In fifty-two of these cases, the blood serums contained less than 250 mg. cholesterol per hundred c.c., which is normal. Eleven of the eighty-nine cases had blood serums with cholesterol between 250 and 300 mg. per hundred c.c. In twenty-six of the eighty-nine cases, the blood serums contained more than 300 mg. of cholesterol. In thirteen cases of diabetes, it was not possible to make a Wassermann test because the blood serums were too anticomplementary. In ten of the anticomplementary cases, cholesterol determinations were made; seven of the patients had serums with a cholesterol content above 300 mg., one had a blood cholesterol between 250 and 300 mg., and the other two had lipoidemia, on later examinations. In many cases it was necessary to make repeated tests in order to obtain a satisfactory Wassermann reaction, because of the anticomplementary character of the serums. Almost invariably these serums contained large amounts of cholesterol. In two of the four cases of known syphilis in which positive Wassermann reactions were obtained, cholesterol determinations were made. One of these had less than 250 mg., and the other had more than 300 mg. of cholesterol. The influence of lipoidal substances in the complement fixation test is well understood by serologists. Cholesterol is purposely added to reinforce or make more sensitive the Wassermann test. From this study, therefore, it would seem probable, as Henes[8] suggests, that, if the blood serum of a patient contained an excess of lipoid in the form of cholesterol, it would serve to reinforce any syphilitic antibodies. The Wassermann reaction as a test of syphilis must be particularly crucial in individuals who have a cholesterinemia. The fact that thirty-seven diabetics out of eighty-nine examined had a cholesterinemia and yet gave negative Wassermann reactions is strong biochemical evidence of the absence of syphilitic infection.

CONCLUSIONS

1. Many combined clinical and pathologic studies reported in the literature support the belief that the Wassermann reaction as a clinical diagnostic aid is a dependable procedure in from 70 to 90 per cent. of all types of syphilis.

2. In the hands of clinicians who have had a wide experience in the study of diabetes, the Wassermann test has been positive in only from 3 to 10 per cent. of the cases examined. In my experience, only four cases out of 143 examined thus reacted.

3. Careful physical examination of 126 cases for the lesions which characterize syphilis does not lend support to the view that the disease is a common causal factor in the production of diabetes.

4. Thirty-seven of my patients had a cholesterinemia and yet reacted negatively to the Wassermann test. Since cholesterol is purposely added by serologists to increase the delicacy of the test, it would seem that if these patients had had the slightest trace of syphilitic infection, they would have reacted positively.

5. This study does not support the view advanced by Warthin that syphilis is the chief etiologic factor in the production of pancreatic diabetes. Indeed, if it proves anything, it is that syphilis is rarely the provocative agent.

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8. Henes, Edwin, Jr.: Cholesterinemia and the Wassermann Reaction, THE JOURNAL A. M. A., June 12, 1915, pp. 1969-1972.

BACILLUS TYPHOSUS ASSOCIATED WITH PYONEPHROSIS*

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Typhoid carriers have been frequently found among persons who have had typhoid fever, and among others who have never had it. Some of these carry the typhoid bacillus in the intestine, and with every bowel movement, many bacilli are thrown into the sewage, on the soil, or wherever the stool happens to be deposited. Others carry the bacillus in the urinary tract, and every micturition contaminates everything soiled by the urine.

The case reported here followed typhoid. It is of interest because of a severe kidney lesion produced, and, to a certain extent, because of a long interval between the typhoid fever and the severe symptoms produced by the kidney lesion.

History.—A farmer, aged 41, admitted to the Bismarck Hospital, June 22, 1917, complaining of bladder trouble, with such symptoms as frequent urination and discomfort, had had typhoid at the age of 28, and during the attack he had been sick five weeks. At the age of 32, he had experienced a second attack, which had kept him in bed sixteen weeks. Severe nephritis had complicated this attack. All the family had suffered attacks of typhoid at this time. The present illness began with chills and fever about three weeks before his entrance into the hospital. He had no pain. He was troubled with frequent urination and with discomfort in the bladder, and the scrotum was moderately swollen. On examination, tenderness was found in the region of the right kidney. The urine contained much pus. The roentgen-ray examination revealed an irregular shadow in the region of the right kidney. Thorium could not be forced into the right kidney. The left kidney appeared normal. In the light of these findings, the clinical diagnosis of a right pyonephrosis, calculus obstructing the pelvis of the right kidney, and a severe secondary cystitis was made. The right kidney was removed, June 28, 1917, and was found greatly enlarged,

COMPARISON OF THE ORGANISM FROM THE KIDNEY WITH THE RAWLINGS STRAIN AND WITH B. COLI

Culture Medium	Bacillus from the Kidney	Bacillus Typhosus, Rawlings	Bacillus Coli
Broth	Cloudy	Cloudy	Cloudy
Agar-agar	Translucent streak	Translucent streak	Nearly opaque streak
Glucose agar stab.	No gas	No gas	Much gas
Litmus milk	No change	No change	Acid, coagulated
Potato	Small growth	Small growth	Large growth
Gelatin	Not liquefied	Not liquefied	Not liquefied
Indol	Negative	Negative	Positive

* From the pathologic laboratory of the Bismarck Hospital.

purulent and gangrenous throughout, the pelvis and calices containing much calcareous material. Microscopically the changes were those of suppuration and gangrene.

Bacteriologic Examination.—From the purulent material of the kidney, a bacillus was obtained that corresponded to *Bacillus typhosus.* It was a motile bacillus, and was compared with the well known Rawlings strain and with a common strain of *Bacillus coli.* The cultural characteristics are shown in the accompanying table, which shows also that the organism from the kidney corresponds culturally to *B. typhosus.*

The blood serum of the patient agglutinated the Rawlings strain in a dilution of 1:6,400, and the bacillus isolated from the kidney was agglutinated in a dilution of 1:3,200, while *B. coli* was not agglutinated in a dilution of 1:50.

SUMMARY

In all probability the patient had been a typhoid carrier since the second attack of typhoid, a period of nine years.

As no other organisms were found in the kidney, the typhoid bacillus must be considered the cause of the suppuration and gangrene. Calcification probably resulted from chronic suppuration.

Since the patient did not seek relief until after the development of cystitis, his health apparently was not seriously affected by the infection of the kidney.

CHILDBIRTH AND TUBERCULOSIS *

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It is thought that this series of childbirths in tuberculous women may be of interest because the patients were cared for in the Sea View Hospital, which makes special provision for these cases.

Some time ago a ward in this hospital was designated for the care of pregnancy and childbirth in tuberculous women. There seemed to be a need for this, and apparently there were few tuberculosis institutions that attempted to fill the need. The idea, in general, was to place the pregnant tuberculous woman in this ward, where the usual sanatorium treatment for tuberculosis was carried out as much as was possible during pregnancy and after labor.

ROUTINE

After admission to the hospital, the taking of the history, the physical examination and the obtaining of specimens of urine, sputum, etc., were done in the general female admission wards, where the patient was placed in bed for an observation period of about two weeks, as is the custom with all tuberculous patients. Then, in case of pregnancy, the pelvis was examined, a vaginal smear was examined for gonococci, and Wassermann and gonococcic fixation tests were made. After the usual two weeks of observation in the admission ward, where the stage of the disease and the mode of sanatorium treatment were determined, the woman was transferred to the obstetric ward. In the obstetric ward, the care was the same as for all tuberculous patients, the amount of exercise allowed being dependent on the activity of the tuberculosis and the general rules observed in pregnancy.

These patients seemed well satisfied, and their being together seemed to add to their contentment. Their meals were served to them in this ward and, to satisfy their natural reticence, they were allowed to remain as much apart from other patients as they desired. This ward was not, however, closed to other patients, for this was not feasible, and was obviously not desirable.

When labor occurred, the woman was removed to the surgical pavilion, for reasons of asepsis, and brought back to the obstetric ward shortly afterward. She was placed in a single room for two or more weeks and treated as any other maternity patient. The child was removed, immediately after labor, to the children's pavilion. The child was not permitted to nurse, being fed artificially from birth. The parents were advised that the child should be sent to a tuberculosis preventorium for one year at least, and if they aquiesced, this was done as soon as it could be facilitated. The mother was confined to bed while the uterus was undergoing involution, and after this, if all things were favorable, she was cared for according to the usual sanatorium methods for tuberculous patients.

REPORT OF CASES

There were seventeen cases:

CASE 1.—A multipara, aged 23, with far advanced pulmonary tuberculosis complicated by cervical adenitis, of about three years' duration, at admission six months pregnant, gave birth to a dead fetus one month later. She retrograded during pregnancy, and died one month after labor.

CASE 2.—A multipara, aged 29, with moderately advanced pulmonary tuberculosis of about four months' duration, underwent normal full time labor, a few days after admission. She was discharged at her request about two months later, with her condition slightly improved.

CASE 3.—A primipara, aged 20, with far advanced pulmonary tuberculosis of about two years' duration, at admission about five months pregnant, underwent premature labor with instrumental delivery, two months later. The child died six hours after birth. The mother retrograded during pregnancy, and died a few days after labor.

CASE 4.—A primipara, aged 20, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis, of about seven months' duration, at admission four months pregnant, refused to consider termination of pregnancy, and underwent normal delivery five months later. She retrograded during pregnancy, and died a few days after labor.

CASE 5.—A multipara, aged 25, with moderately advanced pulmonary tuberculosis of about two years' duration, underwent normal full time labor three months after admission. She was discharged at her request eight months after labor in improved condition. She seemed to improve slowly during pregnancy and after labor.

CASE 6.—A multipara, aged 30, with far advanced pulmonary tuberculosis of about one year's duration, underwent normal full time labor five months after admission. She seemed to improve a little during pregnancy and to retrograde slowly after labor. She was discharged at her request about two months after labor in an unimproved condition.

CASE 7.—A multipara, aged 29, with far advanced pulmonary tuberculosis of about seven months' duration, underwent normal full time labor three months after admission. She retrograded during pregnancy and died about one and a half months after labor.

CASE 8.—A multipara, aged 28, on whom cesarean section for placenta praevia had been performed one year before, and who had moderately advanced pulmonary tuberculosis of about five months' duration, underwent normal full time delivery four months after admission. She seemed slowly to retrograde during pregnancy, and after labor slowly to improve. She was discharged at her request five months after labor in an improved condition.

CASE 9.—A multipara, aged 36, with far advanced pulmonary tuberculosis of about five years' duration, underwent

* From the Sea View Hospital.

normal full time labor three months after admission. She retrograded during pregnancy, and died two days after labor.

CASE 10.—A multipara, aged 25, with moderately advanced pulmonary tuberculosis of about three months' duration, underwent normal full time labor one month after admission. No improvement was noted until after pregnancy and labor. She was discharged at her request three months after labor in an improved condition.

CASE 11.—A multipara, aged 22, with far advanced pulmonary tuberculosis of about two years' duration, underwent a normal full time labor one month after admission. She retrograded slowly during pregnancy and after labor, and was discharged at her request in an unimproved condition one month after labor.

CASE 12.—A multipara, aged 24, with moderately advanced pulmonary tuberculosis complicated by bone tuberculosis in both wrists, of about three years' duration, underwent a normal full time labor four and a half months after admission. She seemed to improve during pregnancy and after labor, and was discharged at her request about two and a half months after labor in an improved condition.

CASE 13.—A primipara, aged 22, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis, of about two years' duration, at admission about three months pregnant, refused to consider termination of pregnancy, and underwent a normal labor six months later. She seemed to improve slightly during pregnancy. After labor she retrograded slowly, and was discharged at her request about four months later in an unimproved condition.

CASE 14.—A multipara, aged 36, with moderately advanced pulmonary tuberculosis of about four months' duration, underwent a normal full time labor five months after admission. Her condition seemed unchanged during pregnancy. She improved slowly after labor, and was discharged at her request about one month later in an improved condition.

CASE 15.—A multipara, aged 34, with moderately advanced pulmonary tuberculosis of about one month's duration, underwent a normal full time labor about four months after admission. She seemed to improve slowly during pregnancy and after labor, and was discharged at her request about one month after labor in an improved condition. She was readmitted three years later, with far advanced pulmonary tuberculosis of about three years' duration, and underwent a normal full time labor about two months after admission. She retrograded during pregnancy and after labor. She is still in the hospital.

CASE 16.—A multipara, aged 33, with far advanced pulmonary tuberculosis of about three months' duration, underwent a normal full time labor about two months after admission. She retrograded slowly during pregnancy and after labor. She is still in the hospital.

CASE 17.—A multipara, aged 22, with far advanced pulmonary tuberculosis complicated by tuberculous laryngitis of about three years' duration, underwent a normal full time delivery about four and a half months after admission. She retrograded during pregnancy, but since labor has slowly improved. She is still in the hospital.

COMMENT

All together there were eighteen childbirths, one patient having two children born in the hospital, the second being three years after the first.

The duration of the tuberculosis is that stated by the patient, and is the duration of the clinical tuberculosis, which, as used here, means the length of time that the tuberculosis has been evident to the patient. Ten stated that the onset of their clinical tuberculosis occurred before pregnancy; of these, after labor, four died, three seemed improved and three seemed unimproved. Three stated that the onset of their clinical tuberculosis occurred at about the time they became pregnant; of these, after labor, one died and two seemed improved. Five stated that the onset of their clinical tuberculosis occurred after they became pregnant; of these, after labor, four seemed improved and one seemed unimproved.

During pregnancy, as near as could be ascertained, ten seemed to retrograde, five to improve, and three were apparently unchanged.

After labor, of the moderately advanced, seven were improved; of the far advanced, five died, one improved and five retrograded.

Conclusions drawn from so small a series of cases would very probably be erroneous. However, a few general impressions were received which perhaps have some value. Since in this series of cases all had pulmonary tuberculosis, the following observations apply to this type of the disease:

The establishment of obstetric services in tuberculosis institutions is an aid in tuberculosis hospital and sanatorium treatment. By means of the obstetric service, the tuberculous mother can receive sanatorium treatment during pregnancy and after labor. This is desirable because pregnancy and labor frequently have a profoundly disturbing effect on pulmonary tuberculosis. With facilities to care for pregnancy and labor, in the institution in which the mother is receiving treatment for her tuberculous disease, the mother suffers the least interruption of her treatment. Measures for the prevention of tuberculous infection of the child can be readily carried out. The mother receiving treatment for tuberculosis in a hospital or sanatorium will usually realize the advisability, and agree to separation from her child, and permit it to be sent to a tuberculosis preventorium. Of course, such an obstetric service has its disadvantages. Naturally the mother dislikes to be separated from her child, but the possibility of infection during nursing and from fondling makes this desirable. Artificial feeding has its many drawbacks. And there may be objections that making an "institutional baby" is unfair treatment to the child. But weighing both advantages and disadvantages of the plan of the service, it seems that the health of both mother and child are perhaps better conserved, as a rule, by these methods.

The effects of pregnancy and labor on the course of the tuberculous disease are extremely problematic. Not only are the effects variable, but they are difficult to foretell, and frequently a long period of observation is necessitated to ascertain the ultimate effects. In open active tuberculosis, seemingly, there is rarely a good effect, especially when the onset of the clinical tuberculosis has occurred before pregnancy. When the disease seems to have little activity and has never been very active, some will apparently improve during pregnancy and after labor. It is questionable if the prognosis in such cases is bettered. In others, pregnancy and labor frequently seem to whip a slightly active tuberculosis into a rapidly advancing, quickly fatal disease. Generally, the less the tuberculous disease and particularly, the less the activity of the disease, the better the prospects of the mother. One, however, is impressed with their inability, considering all things, such as the stage, activity, complications, etc., of the disease, to foretell in the individual case what effect, if any, pregnancy and labor will have on the course of the tuberculosis.

The question of the termination of pregnancy in the tuberculous is an open one. The literature on this subject is voluminous and varies widely. Some believe in not only the prevention of conception, but also the termination of pregnancy in all instances. Others

less radical think that the interruption of pregnancy should depend on the history, extent and activity of the tuberculosis. Still others believe that pregnancy should follow its course. Like most debatable questions in medicine, there is clinical material to aid in the substantiation of the claims of all three groups. The impressions, regarding maternity, gained in the short series of cases described above, were mixed and confusing. Some who were thought to have a poor initial prognosis seemed to progress favorably; others retrograded when it was unexpected. To have decided for or against maternity in the early months of pregnancy in each of this series would have been difficult, and mistakes favorable or unfavorable to mother and child would have been made. Pregnancy and childbirth seem to add to the uncertainties of the prognosis of tuberculosis, and their advent gives apprehension. To answer the question of the termination of pregnancy in the individual case of tuberculosis is extremely difficult, and perhaps the best way is to imagine one's self in the position of the tuberculous woman and then decide.

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ACQUIRED GENITAL SYPHILIS IN THE INFANT

REPORT OF CASE

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It is extremely rare to find in the literature any mention of the age at which syphilis is acquired. This is probably due to the fact that by far the greater majority of chancres, particularly in the genital lesions, are contracted in early adult life through venery. Rarely is a chancre noted on the glans penis before the fifteenth or after the fortieth year. In an analysis of ninety-eight cases of chancre in private practice, the youngest was in the fifteenth year and the oldest in the fifty-eighth year, with an average age of 24 years.

There have been thousands of cases of acquired syphilis with extragenital chancre observed in the infant, and numerous cases of this type are reported in the literature. The youngest patient on record is one reported by Grünfeld,[1] an infant aged 3 weeks, with a chancre on the scalp. Weil[2] reports the case of an infant, aged 4 weeks, with a chancre at the root of the nose. In both of these cases the source of infection was traced to parturition; the mother in each case had contracted syphilis in late pregnancy, and the vulva showed numerous mucous patches. Dr. Howard Carpenter has informed me that he observed an extragenital chancre of the cheek in a baby, aged 5 weeks.

The varying sources of acquired infection in infants may be thus classified: parturition, circumcision, vaccination, breast feeding, hand feeding, fondling, household utensils, toilet articles, careless and unclean methods in caring for wounds, the removal of foreign bodies and miscellaneous sources.

The majority of extragenital chancres reported in infants occur about the head, face and mouth. Trosseau[3] has reported the case of a boy, aged 4 months, who acquired a chancre on the buttock from contact with mucous patches on the mother's vulva. The child was in the habit of going to sleep with its buttock against its mother's abdomen.

It would seem, from the numerous cases reported in the medical literature by noted syphilographers, that extragenital chancre in infants is of rather frequent occurrence. That such is not the case is evidenced by statistics from the clinics of Fournier,[4] Tarnosky, Gay and the Kalinkinsky and Alexandrovsky infirmaries. They have reported collectively seventeen cases of extragenital chancre in children under 2½ years of age out of 897 cases, or not quite 2 per cent. Fournier in forty-five extragenital chancres had four, or approximately 9 per cent., in children. Kapustin[5] states that 23 per cent. of syphilis in Russia in children from 1 to 10 years of age is acquired extragenitally. Extragenital chancre in early childhood is an uncommon condition, and has become more so in this aseptic age. Few cases have been reported in the past decade.

The only cases of genitally acquired syphilis in early childhood reported in the literature are those infected during circumcision. This was quite common when the rabbis practiced suction of the circumcision wound, after taking a mouthful of wine. This was done to procure perfect hemostasis, remove all surplus blood, and thereby prevent "festering." In the early part of the last century, many of the rabbis and Jewish physicians began a crusade against this custom and succeeded in bringing about a reform, so that at present the mohels, or professional circumcisers, are picked men who are given a thorough examination as to their physical fitness and a rigid training in asepsis and the surgical technic of circumcision. They are under the constant supervision of a special committee composed mostly of surgeons, and are compelled to report to this committee every circumcision scheduled, twenty-four hours before the time set for the operation.

Epidemics of syphilis acquired through circumcision have been reported by Segel,[6] Ricord,[7] von Pitha,[8] Hutchinson[9] and others. An interesting series of seven cases is described in detail by Hutchinson. He was called in consultation because the circumcision wounds, which had practically healed, were breaking down and ulcerating. He speaks of the unequal severity of the infection when derived from the same source; the absence of typical chancres, the presence of very little induration; the presence of buboes, some having undergone abscess formation and suppuration; and the rapid development of secondaries in all infants.

During a period of six weeks, this rabbi had been infecting his patients with syphilis, not all of them, but one now and then. The greater majority, which included a large number, as he had a very large practice, had escaped during this period. The rabbi was a man past middle life, wholly free from syphilis; he denied the practice of sucking, and declared that he always sterilized his instruments. Further questioning elicited the information that he was in the habit of throwing the prepuce into a silk-lined compartment of his instrument case and taking it home so that it

1. Grünfeld: Wein. med. Presse, 1879, p. 1492.
2. Weil: Arch. Dermat., 1879, p. 92; Statistics on Extragenital Chancre, Brit. Jour. Dermat., 1888, p. 426.
3. Trosseau: Gaz. d. hôp., 1853, p. 522.
4. Fournier, J. A.: Treatment and Prophylaxis of Syphilis, New York, Rebman Company, 1907.
5. Kapustin: Arch. f. Dermat. u. Syph., 1889.
6. Segel: Wein. med. Presse, 1867, p. 1.
7. Ricord: Gaz. d. hôp., 1862, p. 42.
8. Von Pitha, reported by Jaffe: Die Rituelle Circumcision, Liepzig, 1886.
9. Hutchinson: Syphilis, London, 1909.

might be ceremonially burned. In the same compartment he carried his gauze dressings. The silk lining proved to be spotted here and there with blood stains. Hutchinson was of the opinion that at some time the rabbi had thrown in the prepuce of a syphilitic infant, and that the syphilitic virus had been kept alive and revivified from time to time by fresh blood stains, and from here transferred to the gauze and thence to the child.[10]

REPORT OF CASE

I have deemed this case worthy of reporting because of the extreme youth of the patient, the typically indurated chancre situated in the usual site, and the very obscure source of infection.

A well developed, healthy boy, aged 16 months, of good disposition, was referred, March 7, 1917, for a single ulcer, the size of a dime, in the sulcus, just to the right of the middorsal line and extending back on the reflected layer of the foreskin. The foreskin was long, but retracted easily. The duration of the ulcer had been two weeks; it was noninflammatory; was not painful, and was typically indurated. It possessed the clinical characteristics of chancre in flopping over like a boat on retraction of the foreskin. It was positive for *Spirochaeta pallida*. There was slight inguinal adenopathy. The patient received four injections of neosalvarsan, 0.15 gm., intramuscularly, at weekly intervals. The chancre was healed at the time of the second injection. The Wassermann reaction was negative six weeks after the last injection. At the time of the second visit, a profuse purulent meatal discharge was noted, which on appropriate staining was found to contain typical gonococci.

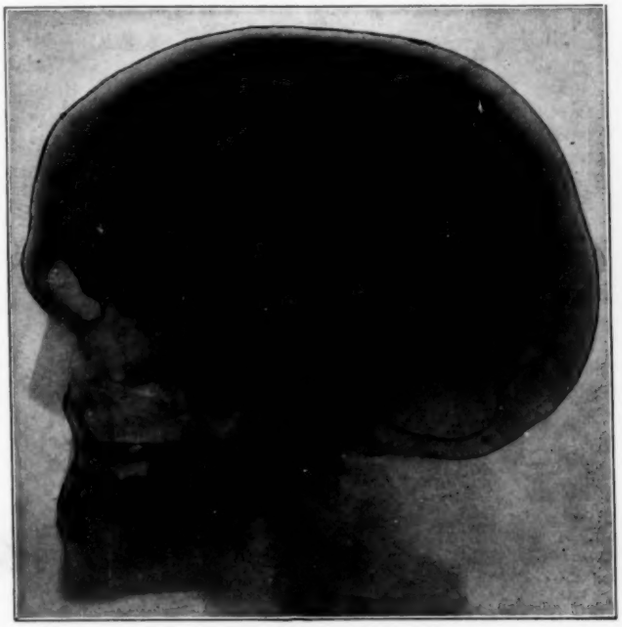

Fig. 1.—Paget's disease consistent with perfect health and cerebration, showing no material change during five years.

The most probable source of infection was a colored nurse. A careful physical examination by the family physician revealed no clinical evidence of syphilis. She had very bad teeth; otherwise the examination was negative. Her blood gave a ++++ Wassermann reaction. Before noting the discharge from the meatus, we thought of transmission by some form of sexual perversion by mouth, but the family doubted this, as there was very little opportunity for her to practice it, and the presence of the discharge tends to preclude this idea. We cannot help feeling that there must have been some evidence of syphilis around the nurse's genitalia.

1701 Chestnut Street.

10. In addition to the references already given, the following will be found of interest:
Bulkley: Syphilis Insontium.
Knowles, F. C.: Syphilis Extragenitally Acquired in Early Childhood, New York Med. Jour., 1908, **88**, 108.
Reuben, M. S.: Ritual Circumcision, New York Med. Jour., 1917, **105**, 688.
Bierhoff, F.: Notes on Conditions Resulting from Ritual Circumcision, New York Med. Jour., 1912, **95**, 1037.

Need of Industrial Physicians.—While teachers of medicine have devoted a certain measure of attention to yaws, sleeping sickness, and to other conditions little related to the immediate needs of the American practitioner, practically no instruction is given in industrial hygiene to students, many of whom will settle down to practice in industrial centers.—L. I. Harris, M.D.

PAGET'S DISEASE OF THE BONE

EXCELLENT REPAIR AFTER SURGICAL OPERATIONS

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Sir James Paget first brought to prominence a definite and unexplained type of bone disease that has rightly been classified under his name, though the Germans later named it "osteomyelitis fibrosa"— a name that is clinically delusive, as there is nowhere a fibrous change, but only a large bony overgrowth. Genetically, bone structure is classed with fibrous tissue in embryologic development; but it is not an excuse for a name that is misleading and not elucidating to the student.

Though the disease appears first in some isolated bone, it is not essentially a "one-bone disease." Usually it is noticed in a curvature and enlargement of one tibia, femur, clavicle or ulna; and the surgeon often examines the skeleton in vain endeavor to find a second diseased bone. Nevertheless, in almost all cases, a roentgenogram of the head will reveal a thickening of the frontal, parietal and occipital bones, sometimes of enormous degree—to an inch in thickness, with no prior suspicion.

This is often the only corroboration of diagnosis. The essential condition is one of very chronic osteitis, productive of spongy overgrowth, with absorption of the compact structures in the long bones, and occasional development of cysts lined by epithelium, sometimes filled by fluid or granulation tissue. In the skull the enlargement is never at the expense of the cranial cavity. In the long bones there is curvature with much increase in bulk, by periosteal and endothelial growth. Occasionally, though rarely, a sarcomatous degeneration may ensue. While the disease is not widely recognized, it is by no means so uncommon as would be implied by the general ignorance of the profession about it, and quite a number of cases go unrecognized.

I have two purposes in writing thus briefly about it, while referring the reader to more extended articles on the subject: 1. To call attention to the admirable repair of such diseased bones, when surgical operation is called for. 2. To direct attention to its not infrequent appearance in the jaw bones, in order that it may not come unrecognized to the notice of dentists.

In fourteen private cases of this disease seen during recent years, four cases with jaw complication have come to my notice. In two of these, extensive surgical operation was required and most excellent results were obtained. Its slow development is emphasized in one

case of a woman whose lower jaw I had treated for a cyst on several occasions for twenty-two years. Only three years ago it suggested itself to me that it might be Paget's disease, and, on taking a roentgenogram, I found a very thick, typical skull. When its nature was thus shown, I ventured a wide removal of the outer plate and all cancellous and cystic structure of the forward half of one side of the lower jaw, leaving the inner compact structure. I thus obtained a good surgical cure.

Fig. 2.—Typical Paget's disease of one bone.

In another case, a bold and successful operation restored a lawyer to useful life:

The patient for many years had been the victim of enormous overgrowth of the alveolar roof of the mouth, which produced a repulsive change in his countenance. Roentgenoscopy revealed also a large characteristic overgrowth of the calvarium. To remove the entire excess bone growth of the upper jaw imperiled the roof of the mouth, as both anterior and posterior palatine arteries would be sacrificed. I judged, however, that nutrition would be sufficient through the median line and the soft palate attachment.

Three remaining teeth were drawn, and a horseshoe shaped incision was carried round the entire upper jaw along the line of the teeth. The mucoperiosteum of the roof was stripped from the bone back to the soft palate and the posterior median line. The alveolar part was stripped upward. A horizontal block of bone, more than 1 inch thick, was then removed by broad chisel, rongeur and bone gouge. Large blocks of it at the back were dissected from their periosteal covering, and a rough bony roof left against which the soft parts were held by compresses and a splint, devised like a modified bit, held up outside by a bandage over the head.

Fig. 3.—Enormous bone hyperplasia perfectly corrected by operative removal.

The upper and lower mucous edges were stitched so as to create a projecting shelf to hold a future dental plate. This was adjusted effectually after four months, and a restoration of physiognomy to that of twenty years before was the happy outcome of the surgical work.

13 West Fiftieth Street.

SYPHILITIC JOINT DISEASE SIMULATING TUBERCULOSIS

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Until recently, the diagnosis of tuberculous joint disease was considered one of the simplest and most definite problems with which the orthopedic surgeon is confronted. It is evident, however, from the gradual elimination from this classification of such conditions as Perthes' disease, hemorrhagic osteomyelitis (Barrie) and other benign lesions, and also from studies of congenital syphilis pursued by me during the past two years, that this simplicity is merely apparent. We have, indeed, enjoyed a sense of diagnostic security entirely unwarranted by the facts. Heretofore it has been the custom to consider as probably tuberculous those cases of articular disease characterized by a gradual onset of symptoms, the presence of spasm on passive movement, limitation of motion in all directions, atrophy and limp, if a weight bearing joint was involved, or alteration of attitude when the lesion was vertebral.

This method of diagnosis has been practiced for many decades, and in more recent times has been bolstered up by roentgenographic demonstration of a pathologic focus in one of the bones comprising the affected joint. In view of our lately acquired knowledge, it is difficult to understand why we have for so long a time complacently accepted tuberculosis as the most probable etiologic factor in the production of the clinical picture described. The records of more than a hundred cases collected during the past year give proof that a similar symptomatology may be produced by inherited syphilis, and the roentgenographic findings in this series show no characteristics to differentiate them from what we have previously supposed to be tuberculous lesions. Just what proportion of diagnostic errors have occurred in the past it is impossible to estimate; but it is evident that many patients who might have been restored by medication to their normal activities in ten or twelve months, or less, have been condemned to years of immobilization in plaster casts or braces, only to recover with permanent deformities.

The literature on joint lesions of inherited syphilis is extremely limited in both volume and scope. Beyond the ample descriptions of osteochondritis of infancy, which Parrot has so well portrayed, frequent references to arthroses of the knee and elbow and a limited though increasing recognition of syphilitic joint conditions resembling tuberculosis, the recorded clinical and pathologic observations fall far short of a comprehensive exposition of the subject. There exists an extensive group of syphilitic invasions including those of the vertebrae and bones of the large joints still unrecognized by the writers of orthopedic textbooks, though occasionally referred to in current medical publications. It is evident that, generally speaking, the influence of inherited syphilis as a common etiologic factor in chronic joint disease has been overlooked.

To draw the line definitely between syphilis and tuberculosis in the diagnosis of joint lesions is not always easy.

It is regrettable that the Wassermann reaction in its present state of development is frequently negative in the presence of a direct family history of syphilis and where existing lesions in children of syphilitic parents clear up under mixed treatment. Nor is there a reliable laboratory test for tuberculosis to aid us in diagnosis. Fortunately, however, nearly every joint case due to inherited syphilis will, on exhaustive search, reveal some remaining imprint of the previous activity of the disease, and the family history, if carefully analyzed, will often yield valuable information. It would seem wise, therefore, to approach the diagnosis of joint disease in children from a standpoint diametrically opposite to that from which the subject has heretofore been considered. As we have no accepted test as yet to indicate the presence of tuberculosis, and we do have certain indexes of congenital syphilis to serve as a guide, the first step in solving our diagnostic problem should be the elimination of syphilis before we conclude that a case under examination is tuberculous, for syphilitic joints, contrary to the teachings of the past, will be found quite as numerous as those due to tuberculosis.

Fig. 1.—Hutchinson teeth; widely spaced upper incisors in a syphilitic boy.

Fig. 2.—Widely spaced upper central incisors in otherwise perfectly regular teeth. Inherited syphilis; positive Wassermann reaction. Two other children in same family have similar teeth and active lesions of hereditary syphilis.

The importance of the family history is self evident; but as many joint lesions are seen in third generation cases, this is often inconclusive. It is necessary, consequently, to inquire closely into the early life of the patient from the time of birth onward; to note the physical and mental development of the child during infancy; to search for a history of skin diseases and to be sure that every eruption that is called measles is surely measles and not a syphilitic rash; to look for corneal opacities; to examine for unduly tender tibiae, sternoclavicular joints and sternums; to inquire about supposed attacks of "rheumatism," growing pains and articular disease of any sort, and to question in regard to headaches and all other possible manifestations of inherited syphilis.

After all of this has been done, there still remains a field for observation which, if the case is one of syphilis, will more than likely throw a convincing light on the subject. This field is the teeth. It so happens that certain dental units are formed and calcified, either wholly or in part, during the last half of gestation and the first few months of the child's life. These are the deciduous teeth, the first permanent molars and the incisors. In cases of inherited syphilis, therefore, they are very likely to bear some mark of a previous inflammatory process in the maxillae which is usually at its height during that period. An erroneous impression has existed that dental defects are largely due to diseases occurring in infancy or the early years of childhood. While this is in part true, it is important to remember that many of the peculiarities in structure significant of inherited syphilis are produced in utero or before the child has been subjected to external infections, and that, so far as is now known, the only pathogenic organism transmitted directly from parent to child is the *Spirochaeta pallida*, unless we accept as authentic certain rare cases of tuberculosis that have been reported.

The conclusions of Hutchinson regarding dental stigmata have been considerably modified by later investigators, including Fournier, Hallopeau, Moon and Cavallaro. It is now recognized that inherited syphilis may be responsible for numerous anomalies of the teeth, and that notched upper central incisors are but one of many of its curious manifestations. That this should be the case is most natural in view of the fact that the dental structures of the fetus are a common site for syphilitic inflammation, both destructive and productive in its nature, causing an alteration in the normal development of the follicle as a whole, the enamel organ and the walls of the alveolar processes. To describe all of the dental dystrophies that syphilis may produce would be entirely impracticable in a contribution of this length. It will be sufficient to say that even slight deformities should be regarded with suspicion in the presence of active joint lesions of uncertain pathology, and to call attention to some of the more striking defects found in the teeth of syphilitics.

Among the dental dystrophies, the so-called erosions, which include pitted labial surfaces of the teeth, cup-shaped depressions, sulci of various types and other peculiarities of enamel formation, are numerically important.

Fig. 3.—Widely spaced upper incisors; fluted lower incisors. Boy in plaster cast six years for tuberculous knee. Disappearance of all symptoms, return of function to joint, and regeneration of large bone lesion under mixed treatment.

Fig. 4.—Widely spaced upper incisors; no dental units missing. Hip symptoms that had persisted two years disappeared under mixed treatment. Wassermann reaction negative. Brother has dental evidence of inherited syphilis.

Perhaps the most frequent anomalies suggestive of inherited syphilis, however, are widely spaced incisors, either upper or lower, and irregularities on the lingual surface of the upper molars. Diastema of the incisors has been noted by other observers in connection with Hutchinson teeth, but it was not until I called attention in April, 1917, to its significance when appearing as the only defect in otherwise perfectly regular teeth, that its diagnostic importance was recognized. Nor

should it now be considered as pathognomonic of the disease, for there is no evidence to prove that it may not be produced by other causes. The fact remains, however, that it occurs with extreme frequency in syphilitic children, and when present in connection with active joint lesions it points with considerable certainty to the etiology of the pathologic process. The value of the sign is indicated in the appended case reports.

Irregularities in the form of the first permanent molar have been noted by Moon of London, and Sabouraud of Paris. I desire to amplify the descriptions given by these observers because neither has fully covered the subject. No doubt the first permanent molar frequently bears the imprint of syphilis, because its development occurs at a time when the inherited disease is most active in the fetus. The follicle is well formed, and calcification of this tooth begins at about the sixth month of gestation. It is very susceptible, therefore, to the destructive or inhibitive influence of the vasculitis that is so often present in the dental structures of the syphilitic embryo. The ultimate result of this interference with normal evolution of the unit may be expressed in hypoplasia of the enamel, in which case the dentin is exposed to view either on the grinding surface or perhaps well down on the lateral aspects of the tooth, or the enamel may cover the entire tooth except at the tips of the cusps, which appear as yellowish or dead white points. Occasionally, the grinding surfaces are contracted, with inward inclinations of the cusps. Again, unusual elevations of enamel may occur on the intercuspal grooves. In adults we find smooth, ivory-like superior surfaces as the result of attrition of insufficiently protected dentin. Very frequently there appears an alteration in the normally smooth lingual surface of the crown. This may be nothing more than a lateral ridge or slight shoulder that will catch the point of an instrument, passed over it, or it may take the form of a prominent outgrowth resembling a supernumerary cusp, as described by Sabouraud. To this condition I have given the name "humpy molar," which expresses the gross appearance of the tooth without endeavoring to explain the origin of the deformity. Whether the abnormality is merely a ridge or is a strikingly developed rudimentary cusp, the clinical significance is the same. It is due to some interference with the development of the follicle, and is present in a very large percentage of subjects with proved inherited syphilis. It is, moreover, seen on the second permanent molars, and in my series appeared very frequently on the molars of the deciduous group.

Fig. 5.—Moderate grade of widely spaced upper central incisors. Knee symptoms of five years' duration disappeared under mixed treatment.

Fig. 6.—Extreme grade humpy molars. Specimen shows deformity of first permanent and one deciduous molar. Hip case; positive Wassermann reaction.

These two conditions, widely spaced incisors and humpy molars, are the most striking dental indexes of inherited syphilis, excepting, perhaps, Hutchinson teeth, and are so easy of recognition that it would seem almost a duty to look for them in the examination of any patient suffering with joint disease.

In addition to these alterations in structure there are several general characteristics of the teeth that should be borne in mind. For instance, early decay of both the first and the permanent sets is so frequently found in proved syphilitics as to establish a connection between this condition and the inherited disease. The retention of deciduous units long after the period when they are usually replaced is another significant fact. Microdentism is likewise a condition often associated with congenital syphilis and therefore of interest to the diagnostician.

The value of the dental findings described may be seen in the cases reported, selected from a series of 100 in which the only clue to the probable etiology of the joint lesion was furnished by the teeth.

REPORT OF CASES

Case 1.—M. C., aged 4, had been treated for tuberculosis of the left knee for two and a half years, wearing plaster casts practically all the time. March 19, 1917, the knee was enlarged, tender and painful on any attempt at motion; the whole leg was atrophied and one-half inch shorter than the right. Roentgenoscopy revealed considerable destruction of the outer condyle of the femur and the inner half of the head of the tibia. On the evidence of inherited syphilis furnished by widely spaced upper central incisors, mixed treatment was prescribed.

Fig. 7.—Moderate grade humpy molar. Hip case; positive Wassermann reaction.

Fig. 8.—Hypoplasia of enamel of upper and lower incisors. Congenital torticollis operated on three times without result; restoration to normal position and function after six weeks of mixed treatment.

Two weeks later the pain had subsided and the knee could be flexed 20 degrees without discomfort. Improvement continued, and three months after medication was begun there was normal motion of the joint, except for lateral instability due to bone destruction noted in the roentgen-ray report; there was no pain; the child was very active.

Case 2.—R. F., aged 6, had had left hip disease diagnosed at the Hospital for Ruptured and Crippled, May 22, 1916. A plaster spica was applied, and worn six months. The spica was omitted for a time, but the symptoms reappeared and the plaster was reapplied. It was worn till April 18, 1917. Examination of the teeth revealed widely spaced incisors.

There was very little motion in the hip; there was sharp spasm on passive movement; mixed treatment was prescribed. Four weeks later the thigh could be flexed to 100 degrees; no pain was felt; there was very little spasm, but considerable limp. Oct. 10, 1917, all symptoms had disappeared; the child was very active; there was flexion of the thigh to 10 degrees inside a right angle.

CASE 3.—F. K., boy, aged 8, had been treated for four months for tuberculosis of the left hip. He had worn a plaster spica for two and a half months. Roentgenoscopy revealed involvement of the acetabulum and marked destruction of the head of the femur. Examination, May 28, 1917, revealed humpy molars of severe grade; there were 15 degrees of motion in the hip joint accompanied by spasm and pain; the whole leg was atrophied and held in outward rotation. Mixed treatment was prescribed. Three weeks later the pain and spasm had disappeared, and there were 20 degrees of motion; the spica was omitted. Improvement was continuous, and, Sept. 7, 1917, there was flexion to a right angle, outward rotation had been overcome, and pain and spasm had disappeared. The patient participates in all boys' games, but walks and runs with some limp.

CASE 4.—H. K., girl, aged 16 months, for several weeks had had typical symptoms of tuberculosis of the right knee, and came in with this diagnosis. There were pain, swelling, spasm and fixed flexion of the joint. She also had a dactylitis of the fourth finger of the left hand which had existed for three months. The patient had widely spaced upper central incisors, and was placed on mixed treatment. Two weeks later the pain had almost disappeared, the leg could be brought to full extension, and the child was much more active and did not limp. In two months all symptoms had disappeared from both knee and finger.

CASE 5.—R. M., aged 12, had symptoms of lumbar Pott's disease in March, 1915, and was treated at two orthopedic clinics, wearing plaster jackets till August, 1916. In April, 1917, the symptoms returned, and the child appeared sick and complained of pain. Examination revealed rigidity of the lumbar region, and humpy molars. The child was placed on mixed treatment. One week later there was slight improvement in the pain; three weeks later the pain had disappeared, and the spine was less rigid. After three months of mixed treatment the child had no symptoms, and the spine was perfectly flexible.

CASE 6.—H. T., aged 21, was referred to me in March, 1917, for tuberculosis of the wrist. A short time previously, one kidney had been removed for tuberculosis. The wrist symptoms and the roentgenogram were typical of tuberculous arthritis. Immobilization in plaster and the usual forms of treatment were of no avail. Although the Wassermann test taken before the kidney was removed proved negative, certain dental anomalies suggested inherited syphilis. Accordingly, Sept. 15, 1917, the patient was put on mixed treatment. Progressive improvement followed, and eight weeks later pain, spasm and tenderness had disappeared, and the joint was freely movable, except for some limitation in flexion.

CASE 7.—W. U., a boy, aged 15, when 10 years of age, had pain in the left elbow, which became restricted in motion. He was treated for tuberculosis of the joint. Ankylosis at a right angle followed, and lasted two years. A persistent sinus remained after evacuation of an abscess. Under mixed treatment, the sinus closed, full motion returned to the joint, and the patient has remained symptom free for two years. The boy has widely spaced upper incisors. Two other children in the same family have similar dental stigmata. Both have had active symptoms of inherited syphilis. Of these three children, two gave negative Wassermann reaction, and the third, + + + +.

CASE 8.—F. P., boy, aged 4, had been treated for tuberculous knee joint disease for twenty-one months when he came under observation, and he presented all the classical symptoms. There were enlargement of the joint, tenderness, spasm and no motion. A large lesion in the lower end of the femur was disclosed by the roentgen ray. He had worn a Thomas knee splint for over a year, and previously had worn a plaster cast. He had humpy molars, and was therefore given potassium iodid and put to bed without protection to the knee. In two weeks all pain and tenderness had subsided, the swelling was considerably less, and the joint had about 30 degrees of motion. After three weeks' treatment he was allowed up without apparatus, walked and ran about the ward without pain, and flexion of the joint had increased to a right angle. His subsequent recovery was without incident.

Fig. 9.—Syphilitic osteomyelitis of lower end of ulna, with symptoms simulating tuberculosis of wrist joint.

CASE 9.—H. L., boy, aged 5, had worn plaster jackets for Pott's disease for three years. Roentgenoscopy revealed involvement of the second and third lumbar vertebrae; small kyphos was present; the child was exceedingly pale and delicate. Examination of the teeth revealed humpy molars. Mixed treatment was prescribed. A month later his general appearance had so much improved and his activity so much increased that the jacket was omitted. Improvement was progressive, and four months later there was no trace of the kyphos nor any remaining stiffness in the spine.

CASE 10.—C. P., aged 5, had been treated for tuberculous hip for three years. When admitted to the Post-Graduate Hospital, the hip was extremely sensitive, and two sinuses that had existed for over two years were discharging profusely. The child had been wearing a hip splint. Examination of the teeth revealed widely spaced upper and lower incisors. On this evidence of inherited syphilis, he was placed on mixed treatment and confined to bed. One week later the pain was appreciably less. Three weeks from the beginning of treatment the sensitiveness of the hip had entirely disappeared, and the discharge from the sinuses was less. In two months the child was walking about with a stiff hip, and there was no pain and no discharge from the sinuses. Roentgenoscopy reveals extensive joint destruction, eliminating the possibility of a return of joint function. This case illustrates the commonly observed clinical fact that, in syphilitic joints, mixed treatment exercises a potent influence on the control of pain and the healing of old sinuses.

COMMENT

These cases have been selected for the purpose of illustration, and are typical of the majority in the

series. It should not be assumed, however, that every patient enjoys a prompt and rapid recovery. Results will vary according to the type of tissue invaded, the virulence of the organism, and the resistance of the patient. When there is no bone involvement, joint symptoms of long standing usually disappear in a few weeks and sometimes with astonishing rapidity. Bone

Fig. 10.—Same case illustrated in Figure 9, showing the effect of eleven months' treatment with mercury and potassium iodid.

lesions, on the other hand, clear up slowly, even when accompanying acute symptoms cease early; and when regeneration does take place, approximately a year of continuous treatment is necessary.

A subsequent report on an additional hundred cases including other orthopedic conditions is now in preparation, and will be published in due time. In this the results of a comprehensive series of Wassermann tests in congenital syphilis will be submitted. This confirmatory evidence of the diagnostic value of dental dystrophies has been made possible by the generous cooperation of Dr. Cyrus W. Field, to whom I am indebted for valuable assistance in the present work.

576 Fifth Avenue.

Proprietary Medicines.—The use of these preparations by the medical profession is certainly carried to excess. The distressing neglect of materia medica by the majority of our medical colleges is probably the chief cause of the fault. Students are given a limited knowledge of a few drugs. They are not sufficiently grounded in a knowledge of medicines to enable them to meet the demands of practice or to intelligently discriminate between the good and bad of what is afterward offered them. They soon realize the inadequacy of their armamentarium and seize on any suggested additions. This means, of course, that they fall an easy prey to the detail man, the circular, or the well-filled advertisement page.—Bethea, *Materia Medica and Prescription Writing.*

DUODENO-URETERAL FISTULA OF SPONTANEOUS ORIGIN

REPORT OF CASE *

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The proximity of the duodenum to the right renal pedicle, and the danger of injury to the former during nephrectomy, have been pointed out by Dr. W. J. Mayo,[1] who cites four cases of duodenal fistula following nephrectomy, the first three of which were fatal, the fourth being cured by transperitoneal closure of the duodenum. The case reported herewith is doubly interesting in that it further emphasizes this danger of duodenal injury during nephrectomy, and presents a most unusual (and apparently unique) condition, namely, a definite demonstrable fistula connecting duodenum and ureter, *which existed before any operative procedure had been carried out.*

REPORT OF CASE

History.—A man, aged 29, complained of dull, aching pain in the right flank of four years' duration, and of extreme frequency of urination, urgency and bladder irritability. There was nothing of importance in his history up to four years

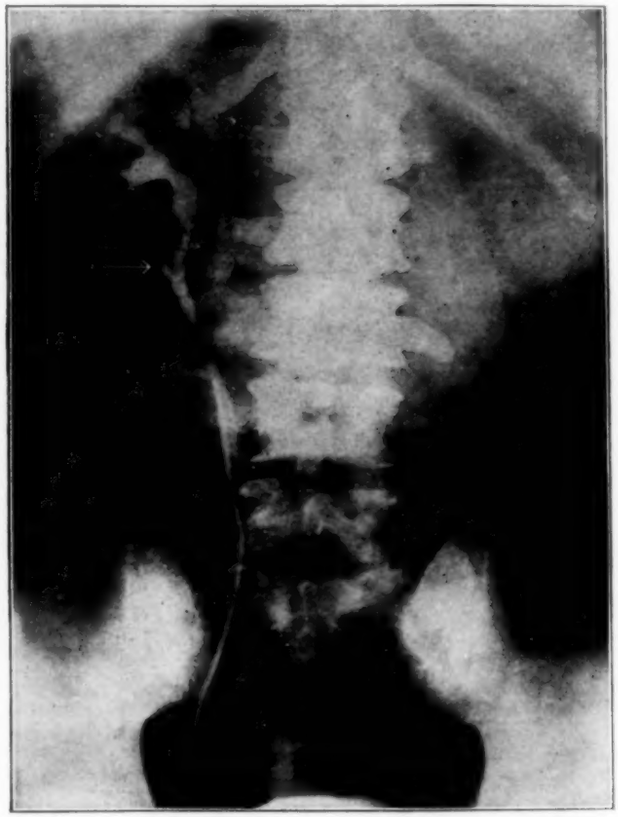


Fig. 1.—The fistula is demonstrated by a small knuckle or diverticulum of thorium seen projecting from the right ureter at the level of the upper border of the third lumbar vertebra.

before admission, at which time he was ill for several weeks with a fever, diagnosed as typhoid, but associated with pain

* From the James Buchanan Brady Urological Institute, Johns Hopkins Hospital.

1. Mayo, W. J.: The Transperitoneal Closure of Duodenal Fistulas Following Nephrectomy, Mayo Clinics, 1915, **7**, 349; Accidental Injuries to the Descending Portion of the Duodenum During Removal of the Right Kidney, THE JOURNAL A. M. A., Jan. 31, 1914, p. 343.

in the right flank, the same pain of which he complained on admission. One year after onset he had an acute attack, during which this pain became very severe and radiated to the testicle. Appendectomy done at this time (McBurney incision, undrained) gave no relief. The pain persisted up to the date of admission, with intermittent attacks of chills and fever, about a dozen in all. Bladder symptoms (extreme frequency of urination with pain and burning in the penis) began about eighteen months after onset, and persisted up to the date of admission. About the same time the bladder symptoms began, the patient noted greenish purulent-looking material in the urine. On admission he was voiding every few minutes, and stated that since onset he had rarely been able to hold the urine longer than one-half hour.

Physical Examination.—The patient was a fairly well looking young man, showing signs of moderate loss of weight. There was no abnormality of the chest or abdomen to be made out. Rectal examination was negative.

Urine: Macroscopically the urine was cloudy in three glasses, but otherwise negative. There was no albumin or sugar. Microscopically, there were large numbers of pus cells, bacilli and cocci. The carbolfuchsin stain for tubercle bacilli was negative.

Phenolsulphonephthalein Test: After intramuscular injection of 6 mg. of phenolsulphonephthalein, 42 per cent. was excreted during the first hour, and 10 per cent. during the second.

Roentgenoscopy: Neither renal shadow was to be made out, nor was there any shadow suggesting a calculus in the region of either kidney, ureter or bladder.

Cystoscopy: There was no evidence of urethral obstruction, and the bladder contained no residual urine. The bladder capacity was 175 c.c. The mucosa showed a moderate diffuse cystitis, but there was no apparent abnormality of either ureteral orifice or of the trigon, and no apparent lesion in the bladder sufficient to account for the symptoms.

Ureteral Catheterization: The ureteral catheter was readily inserted on the left side, but with considerable difficulty on the right. The left kidney secreted normal, clear, pus-free urine, containing 30 per cent. phenolsulphonephthalein (6 mg. intravenously) after collecting for one-half hour. During this time through the right ureteral catheter there came (very slowly) a few cubic centimeters of cloudy fluid, distinctly green, the sediment from which was made up largely of an amorphous mucoid material, containing a few pus and epithelial cells and an occasional bacillus. There was no urea content and not a trace of phenolsulphonephthalein. The resemblance of this greenish fluid to bile was mentioned at the time, but this possibility was not seriously considered, nor were tests for bile carried out. Two subsequent ureteral catheterizations, done at weekly intervals, gave the same results as the first. The green fluid and the complete absence of urine from the right kidney were constant.

Pyelogram (thorium): The left renal pelvis was normal in size, shape and outline, the calices sharp and clear cut.

The right renal pelvis presented a rather peculiar, atypical picture, as shown in Figure 1. The lower half appeared normal in size and shape, although the outline of the calices was rather hazy. The upper half of the pelvis was not visible, the shadow stopping abruptly in a transverse line. At the level of the upper border of the third lumbar vertebra, and at about the ureteropelvic junction, there was visible a small nipple or diverticulum of thorium projecting from the ureter for about 1 cm., in a direction that seemed to be upward, outward and backward, and apparently ending blindly (Fig. 1). It was thought at the time that this might be an incompletely filled bifid ureter.

Preoperative Diagnosis.—It was clear that the right kidney was functionally dead. Since the pyelogram ruled out hydronephrosis and pyonephrosis, it was considered that the kidney had been the seat of an old inflammatory process, and that the secreting tissue had been largely replaced by scar, with the preservation of the almost normal outlines of the renal pelvis.

Operation.—Nephrectomy was performed, Aug. 6, 1917. The kidney was found to be fixed and embedded in dense scar tissue, with a resulting complete absence of respiratory movement, making delivery very difficult. It was not until more than an hour had been spent in clamping, cutting and ligating adhesions (which occurred over the entire surface of the kidney, excepting that covered by the peritoneum and the colon), that the kidney could be brought up into the wound. Blunt dissection was out of the question. The ureter, which was of about the size and consistency of a lead-pencil, was then found, divided and ligated about 8 cm. below the kidney, after which it was possible to free the kidney except for a dense mass of scar tissue at the hilum, including vessels and pelvis. At this time it was noticed that a knuckle of duodenum was pulled up when traction was made on the kidney (Fig. 2), and that a small area of duodenum (about 1 sq.cm.) was intimately associated with the scar tissue, which included ureter, pelvis and vessels, in an indistinguishable mass. The duodenum could not be dissected free without the danger of injury, and therefore a small, button-shaped bit of scar tissue (about 2 cm. in diameter), including the site of duodenal attachment, was cut away from the larger mass of scar and allowed to drop back with the duodenum. During this procedure the renal pelvis was cut into, and a portion of its fibrous wall left attached to the duodenum. The scar pedicle was then clamped, divided and ligated, and the kidney removed.

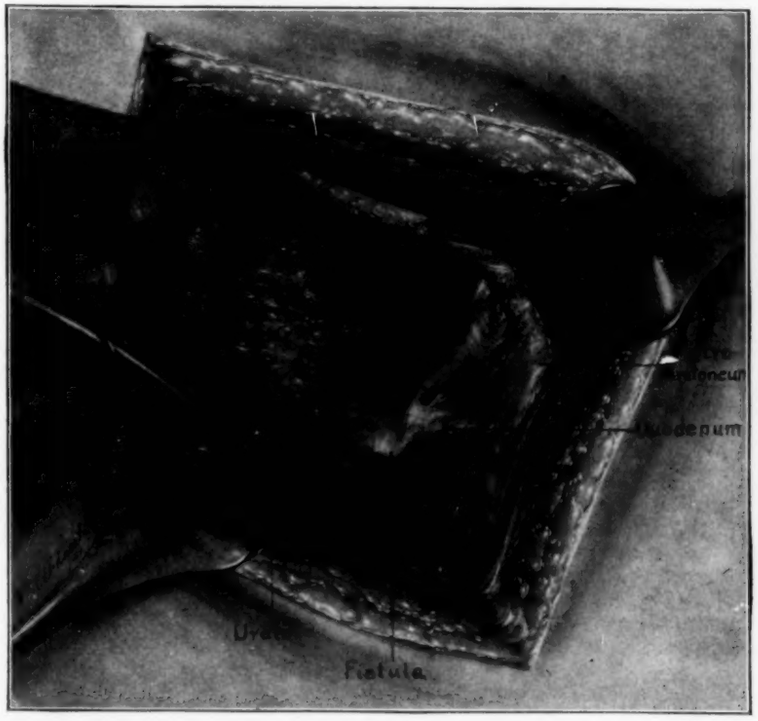


Fig. 2.—When traction was made on the kidney, a knuckle of duodenum was pulled into the wound, and the duodenum at this point was found to be intimately associated with the ureter just where the latter entered the mass of scar tissue constituting the pelvis and pedicle.

Examination of the duodenum showed it to be soft, pliable and normal in consistency, excepting at the one small area (1 cm. in diameter) where it was intimately associated with the above mentioned small area of fibrous pelvic wall. (Strictly speaking, the location of the fistula was the ureteropelvic junction.) Since the opening into the duodenum through this scar tissue was too small to be readily found, and since the patient's pulse was becoming rapid, it was considered inadvisable to attempt excision of the scar tissue, with closure of the duodenum. The incision was therefore immediately closed with ample drainage.

Pathology.—In the gross, the excised kidney was seen to be almost entirely replaced by scar tissue, showing no resemblance to the normal kidney architecture. At the ureteropelvic junction, the point at which the duodenum had been adherent, the scar tissue through which the fistula passed had been excised at operation and left adherent to the duodenum. There was therefore at this point an opening (about 2 cm. in diameter) into the pelvis, at the ureteropelvic junction. Microscopic sections showed, as was apparent in the gross, that there had been a prolonged chronic inflammatory process throughout the entire kidney, with a replacement of almost all the tubules and glomeruli by fibrous tissue.

Convalescence.—The patient made a good recovery. For three days there was only a serous ooze from the wound, but on the fourth day there appeared a profuse watery discharge with an odor similar to that of the content of the upper intestinal tract, and causing an excoriation of the skin for several centimeters on each side of the incision. This discharge of duodenal content gradually lessened and had ceased by the twelfth day, after which there was no further digestion of the skin, and the wound slowly granulated and finally healed after seven weeks.

The most striking feature of the convalescence was the immediate cessation of bladder symptoms. On the day following the operation the patient began voiding without pain and at normal intervals, for the first time in two and one-half years, a remarkable contrast to the extreme bladder irritability before operation. He left the hospital at the end of the seventh week, in excellent condition and free from symptoms.

CASES IN LITERATURE

A careful study of the literature fails to reveal any other case of duodeno-ureteral fistula. In addition to the cases of duodenal fistula following nephrectomy reported by Mayo,[1] there is a somewhat similar case of Thévenard[2] in which a duodenal fistula developed ten years after nephrectomy in a persistent sinus, probably tuberculous, which had existed since nephrectomy, with intermittent abscess formation.

Van Vranken[3] has reported a case, in a man, aged 45, with a large abscess of obscure etiology, pointing over the left Poupart's ligament, which he drained, finding that the abscess cavity communicated with the descending colon. After a month of fecal drainage from the abscess cavity, urinary drainage also appeared and persisted for several weeks, the fistula finally healing completely, although the case was followed for only six months. This case, in which colon and ureter discharge into a common abscess cavity, is the only one to be found in the literature which is in any way analogous to the case reported above.

COMMENT

In view of the history of intermittent attacks of chills and fever, accompanied by pain in the right flank; of the evidence found at operation of an old inflammatory process involving the perirenal tissues; and of the fact that the duodenum, excepting at one point, was normal in appearance and consistency, the most plausible explanation of the origin of the duodeno-ureteral fistula is that the latter was preceded by a perinephritic abscess, which went on to spontaneous cure by rupture into both duodenum and ureter. The condition cannot be explained by an embryologic defect on account of the diverse origins of duodenum and ureter, the former arising from entoderm, and the latter being an evagination from the wolffian duct, which is derived from mesoderm. It was fortunate that during the operation a good exposure was obtained, because the knuckle of soft-walled duodenum, when pulled up alongside the dense scar tissue at the hilum, could not be palpated, and was discovered only by inspection. It might readily have been clamped and severed with the pedicle, particularly if the necessity for hastily controlling hemorrhage through an inadequate incision had arisen.

The most interesting feature was the immediate cessation of bladder symptoms on the day after operation, the over-night return to normal of a bladder which for two and a half years had been a constant source of distress. The only reasonable explanation is that the irritability was due to the constant presence of small amounts of duodenal content, and presumably trypsin, in the bladder.

CONCLUSIONS

1. This case of duodeno-ureteral fistula is apparently unique.
2. In cases in which there is marked inflammatory reaction around the renal pedicle, the only safe procedure is to locate the duodenum before applying clamps.

2. Thévenard, M.: Fistule duodéno-cutanée au niveau d'une cicatrice de nephrectomie lombaire, vielle de dix ans; gastro-entérostomie, exclusion du pylore; guérison, Paris chir., 1913, **5**, 870.

3. Van Vranken, A. F.: Uretero-Intestinal Fistula, as a Result of Abdominal Abscess, Not Due to Appendicitis, with Recovery, Tr. New York Med. Assn., 1894, **11**, 553-556.

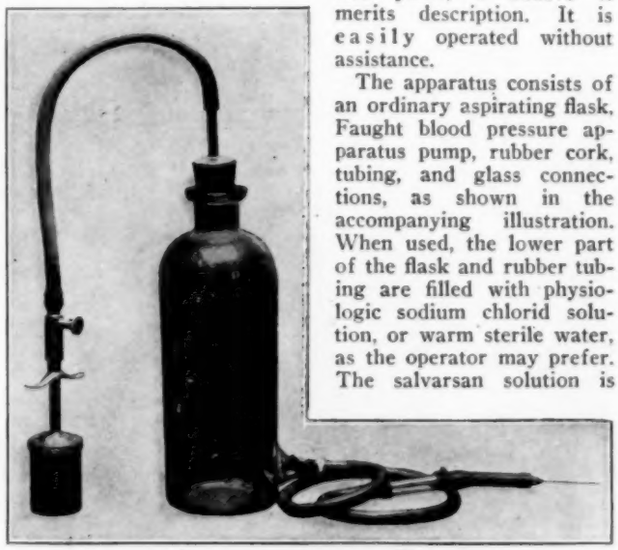
Clinical Notes, Suggestions, and New Instruments

A SIMPLE, YET EFFICIENT, SALVARSAN APPARATUS

B. N. WADE, M.D., PORTLAND, ORE.

In view of the different types of salvarsan outfits in use, it is with some hesitancy that I describe this one. Yet, as I have used it with satisfaction in my office during the past two years, I believe it merits description. It is easily operated without assistance.

The apparatus consists of an ordinary aspirating flask, Faught blood pressure apparatus pump, rubber cork, tubing, and glass connections, as shown in the accompanying illustration. When used, the lower part of the flask and rubber tubing are filled with physiologic sodium chlorid solution, or warm sterile water, as the operator may prefer. The salvarsan solution is then added, and the rubber cork connecting the pump is strapped in the mouth of the flask with adhesive strips. This prevents the cork from blowing out when pressure is increased within the flask. The solution is kept from flowing out of the tubing by the clamping of the latter with an artery forceps. The salvarsan is then given intravenously in the usual way. Pressure can be added and the solution can be given either slowly or rapidly, according to the wish of the operator. The escape valve on the pump allows the pressure to be diminished when this is desired.



Salvarsan apparatus, consisting of Faught blood pressure pump, ordinary aspirating flask and glass connections, and rubber tubing.

Military Medicine and Surgery

THE GERMAN PLAN FOR CARE, REEDUCATION AND RETURN TO CIVIL LIFE OF DISABLED SOLDIERS AND SAILORS

At the fall meeting of the Swedish Medical Association, its president, T. Sjögren, reported his observations on a recent trip to Germany, in which he made a special study of the methods adopted in that country "to uncripple the war cripples." The report is published in full in the *Förhandlingar* of this association for November 30, which has just been received. The following is abstracted from President Sjögren's report:

THE SYSTEM ADOPTED IN GERMANY

"The broad and solid foundation assured by the law of May 31, 1906, had given a groundwork for the empire's responsibility and care for the thousands of wounded who have been streaming back from the various fronts in unprecedented numbers since the first weeks of the war. The well planned and powerful organization which has been created for the purpose is called the *Kriegsbeschädigtenfürsorge*, but there is no centralization of it for the whole empire. All the private forces and organizations are subordinate to the military organization, and the head of this is the medical department of each army corps, the chief corps medical officer being in charge of the whole for his section. Notwithstanding this lack of centralization, uniform principles prevail throughout the whole country. There is some difference, of course, in the different states and provinces; in some, private benevolence is more prominent, in others, the state's fulfilling of its obligations takes the lead. Be this as it may, every where prevail and are applied the three main principles: to advise the wounded man in the choice of a self-supporting occupation; to train him in it, and to find a position for him when he has learned it.

"The needed institutions are created by the concerted action of the army authorities and the officials of different civilian organizations working with the various army corps.

IMPORTANCE OF NATURAL ACTIVE MOVEMENTS FOR REGAINING FUNCTION

"In my visit to Germany for the study of this question, I spent most of the time at the institutions in the Brandenburg district, which is in the charge of the Third Army Corps. They are considered models in their line. The largest and best known is at Görden, not far from Brandenburg am Havel, equipped for 1,000 beds. This large institution had just been completed for an insane asylum when the war broke out. It was then taken for a military hospital and curative workshop. The principles applied there in the after-treatment of the wounded differ in many respects from what has been practiced to date elsewhere. The greatest emphasis in the after-treatment is placed not on passive orthopedic movements but on active gymnastic exercises, carried out under military words of command. This principle was introduced by the chief medical officer of the Third Army Corps, General Leu, and I must confess that it strikes the medical observer as strange. But only by this means is it possible to get the wounded to use active exercises at such an early stage of the healing. This was emphasized by the wounded themselves as well as by physicians. Dr. Leu's fundamental idea was that the patient's dread of pain from the active movements and the attending physician's fear of disturbing the course of the healing have been the reasons for the hitherto prevailing system of voluminous supporting bandages, even in cases in which they most certainly could be dispensed with. Under these efforts to spare the wounded extremity, weeks or even months pass without its getting any active movements, and the consequence is that it suffers from disuse, as also when crutches are used too long, or when after a wound of the chest, the man is told not to breathe forcibly and is kept long in bed.

EXERCISES UNDER MILITARY WORDS OF COMMAND

"The principle has been overlooked that active movement, within the natural range of movements, in the static position for the normal play of the body and limbs, is the quickest of all methods for restoring approximately normal conditions in and the free use of a wounded limb so far as possible. It is of course not the idea to apply force; all depends on the persuading and convincing power of the physician's words. Above all, the wounded man must gain confidence in himself and in the functional capacity left by the wound. Dr. Leu lays great stress on the difference between the exercises done under his orders and those generally used heretofore, exercises with expensive mechanical appliances, hot air apparatus, electricity, diathermy, etc. He points out that these mechanical exercises are not always done without pain, and they do not take the place of the natural movements, no matter how defectively the natural movements may be done to start with. These natural movements can be done at any time and at any place, with increasing confidence and without the aid of any mechanical devices. Passive movements may reenforce the active, but can never take their place. With the more extensive use of the whole body, the natural movements have a beneficial influence not only on the wounded member, but on the whole organism and on the vital forces in general. To be able to aid in this and promote this is one of the most exalted tasks of the military hospital, as many of the inmates have been weakened by loss of blood, suppuration and confinement to bed, so that the whole constitution has suffered. The most important organ of all, the heart, suffers earliest and most. In the same way as the skeletal muscles relax and lose weight and strength under the lack of exercise, the heart muscle becomes reduced in size and energy along with all the other muscles. Exercise, that is, systematic use of the skeletal muscles, implies likewise systematic use of the heart muscle, and this brings recuperation, the benefit from which is felt throughout the whole organism. This physiologic fact entails the consequence that the use of the whole body must be insured from the earliest possible moment, and as systematically as possible, rather than restricted local treatment, such as massage and passive movements. Only when we have succeeded in restoring as early as possible the free use of the body, are we confident that the functional capacity of all its component parts is on the highest attainable plane.

SYSTEM FOLLOWED AT GÖRDEN

"These are the principles which guide the after-treatment of the wounded in the district over which the Third Army Corps has control. How far they are followed in other parts of Germany, I am unable to say. But I could see for myself the fine results attained with them. During my visit to Görden in July, I followed the program for an entire day's work. There was present at the same time a commission of Holland physicians sent by their government to study the German system of caring for disabled soldiers. A gymnastic exercise began the day's work. A body of about fifty soldiers, some of whom had had an arm or a leg amputated and who had been provided with artificial limbs, or who had ankylosis or other injury, were lined up on a large open gymnasium field. The leader was a young staff medical officer who led the exercises with vim and lively interest. At his first word of command: 'Attention,' no one would have imagined at a superficial glance that it was a company of cripples. From simple movements of the head, he passed to more complicated arm, leg and trunk exercises. As in the group of men there were a number of beginners, there was not much uniformity in the exercises. But all seemed to do them with a good will and with a spirit of emulation. After these exercises, more difficult ones followed. Around the exercise field there was a kind of race track, as for walking matches, with hurdles, the hurdles being thresholds of various sizes and shapes, to train the men who had lost a leg, ladders with rungs at different intervals and steps with the steps of different heights, deep sand over part of the route, etc. Then the men passed to sports, football, casting the disk, etc., with jumping exercises for the amputated. It was certainly a strange sight to see the men with one leg going through these various exercises and games. But no one could help being impressed with the zeal and apparent pleasure with which the men took part in them; most of them were managed in competitive form. It should be added that passive exercises, massage, etc., are carried on along with these active exercises, but only subsidiary to the latter. The main aim is to start active movements at an early stage. Work on the stump is begun while the man is still in bed, mobilization of the nearest joint being the aim of this treatment.

DIFFICULTY IN GETTING LEADERS

"The introduction of this exercise method of treatment encountered great difficulties at first, and this from a purely personal reason. The army medical officers who were to

lead the gymnastic exercises were not found equal to the task. They had no knowledge of pedagogic gymnastics, and displayed very little interest in it. The underofficers who were available were mostly elderly, and were not convinced of the advantage of such exercises even when the good will was not lacking. After Dr. Leu in his indefatigable zeal for the effectual application of these principles of early physical exercises posted in all the hospitals in his district detailed instructions how the exercises were to be carried out, the war hospital physicians in general took up with zeal this service otherwise foreign to them, and they have even trained up valuable aids in the subordinate personnel at their disposal.

CHOICE OF NEW CAREER FOR THE MAIMED

"I had a long talk with Dr. Leu in regard to his methods. He is warmly interested in athletics and sports, and I found him well acquainted with our Swedish athletics and our champions. In his system of rehabilitation of the wounded, after the medical treatment has reached the stage at which it is possible to foresee with some degree of accuracy whether the wounded man will be able to resume active service or is disabled for further service, he is handed over to a special advisory commission. The number of the thus disabled is calculated as about 3 per cent. of all the wounded. The task of this commission is to impress on the man that he must not rely alone on the pension to be given him by the state. Hand in hand with this encouraging and sustaining work, the commission advises him as to the best possibilities for him to make himself self-supporting in the days to come. The advisory board consists of one or several reliable men selected from practical life, employers or working men, besides the medical chief of the hospital. The man coming before it is examined privately, so that he can speak freely and openly. Whenever possible, the man is advised to return to his previous occupation, and employers as a rule feel so much sympathy for the men that as a general thing they are taken back. Even if they have lost an arm or a leg, in most of the practical trades there is a possibility of their resuming work. Sometimes it is possible for the man, if his old occupation is impracticable, to fit himself for some other occupation along the same lines so that his previous skill and knowledge may not be wasted. A complete change is, of course, necessary in certain cases in which the injury or the maiming is such as to unfit the man completely for his old trade. Before the man is taken in hand by the advisory board, he has had the opportunity to watch day by day the progress of his comrades in the workshop of the institution. In the war hospital bulletins, which are published everywhere, he finds listed the efforts being made by the state and private individuals to aid the disabled soldiers, and to secure suitable positions for them, and he finds in the institution full information in regard to all the possibilities for training in various trades and occupations which the training schools offer to men maimed in various ways.

THE DISABLED SHRINK FROM RESUMING RESPONSIBILITY

"As a rule, a large proportion of the men would like to get some subordinate official position, doorkeeper, or clerical work. There are several reasons for this. Many of them feel that they have not sufficient courage and self-reliance to make a place for themselves in an open occupation; the unprecedented demands which the war has made on the physical and mental powers of many who are yet young have required the extreme of efforts from them. When, in addition to this, the man is severely wounded, with the loss or restriction of functioning of some part of the body, the prolonged confinement to bed thereafter, and possibly several operations, it is no wonder that a condition of depression ensues which may last for months or even years. Men who have worked with their bodies or their hands are tormented by the fear that on account of their maimed condition they will not be able to compete with others in their line. The long absence from their work and the lack of practice likewise play a certain rôle. The disabled soldiers also cannot help dreading that their pension will be reduced if they become self-supporting and their skill increases. These fears, which are called by the general term *Renten-Hysterie*, are entirely unjustified. The pension is not determined once for all forever, with no chance of changing it, but a change in the amount will occur only in exceptional cases. In determining the pension, it is planned not only to take into account the reduced earning capacity, but to compensate besides for the inability of the wounded man to take part in the recreations and sports of his comrades on his holidays.

"The men who express a preference for some subordinate official clerical position or doorkeeper are not only those who were trained to manual work, artisans, and the like, but they include also wounded who by their education and training would seem to be entitled to hope for more from the future than such subordinate positions, even although they are maimed. These persons all give the impression that they feel that they have done their main life-work, and that the longing for a tranquil existence now overshadows all other ideas.

"There are always a large number of the wounded who are unable to resume their former occupation, and must support themselves with clerical work or as gatekeepers, messengers or the like. But the principle must always be borne in mind that the great desideratum is for the men to resume the work which they had been doing before the war, even when the conditions at first seem to make it impossible for them to return to their former occupation. The advice as to the occupation requires the solving of many interesting and important questions, and the physician's cooperation as a member of this advisory board is extremely important.

THE TRAINING SCHOOL

"After the disabled soldier has decided on a certain occupation to strive for, and he starts on his training in the workshop, the question as to his future is not decided thereby. By means of a well organized system of control, each member of the board watches over the progress of the man in the workshop and courses of training. If he seems listless and does not keep up with the course, his case is discussed again by the board. His family is called in to talk with him, and he is encouraged to express his own ideas as to his future occupation. In occasional but rare cases it is found futile to attempt to teach a trade or other occupation, and some other means of livelihood must be discovered. There is no direct compulsion to force the men to take part in the work of the workshop or the training school. Compulsion would result in the man's doing sham work, and this would not be good for the man himself, and would counteract the efforts of the whole system for rehabilitation of the wounded. The work thus gets only its proper value when it is preceded by encouraging enlightenment. The will to work is strengthened by the example of the man's comrades, and by the premiums given for assiduity.

"The training school is the most important link in the whole system. The training begins in the hospital, as the larger *reservlazaretts* are equipped with workshops for this purpose, or have some nearby. The work in these training schools shops is called 'work therapy,' as the inclination to want to do some kind of useful work is found in nearly every one, and is a powerful mainspring which no other method of treatment possesses. In addition to its ethical importance, the wounded men are protected by the work against the injurious influences of protracted idleness. Its principal purpose, however, is to give the maimed man a chance to adapt himself to his trade under his present altered physical conditions. The 'work therapy' can be regarded from another standpoint, namely, as the physician orders a certain kind of work to correct certain crippling conditions, as, for example, when the hand is crippled, the physician sets the man to work making cigars or baskets, so that gradually as his joints grow more supple, he can pass to more difficult handwork.

SUBJECTS TAUGHT AND FACILITIES FOR TEACHING

"The instruction and training in the war hospitals' schools and workshops are both theoretical and practical. Among the subjects taught are bookkeeping, mercantile business, accounting, correspondence in German, French and English, shorthand, writing with the left hand, typewriting, agriculture, electrotechnics, and linear drawing for carpenters and architects. Different workshops have been equipped for training in cigar making, basket weaving, shoemaking, bookbinding, carpentering, joinery, painting and tailoring, and large numbers of both wounded and normal persons are engaged in making the artificial limbs and other prostheses needed in such large quantities. The workshops and schools I saw at Görden and elsewhere are large, light and airy rooms, completely equipped with what is needed for the different trades. The foremen, who are also the instructors, superintend the progress of the work, while physicians keep a constant oversight over the men and their physical progress. Exact records are kept besides of their regular appearance at work and over the results. The whole seems to be managed with military punctuality and system. Of course not all the war hospitals are equipped so completely as the Görden institution. Many of the smaller ones have made arrangements with industrial establishments in the vicinity to which the men are sent to work and get their manual training. In

the province of Brandenburg, with its forty-three large and small *reservlazaretts*, no less than seventeen factories have been given up by their owners for this purpose. This is a striking example of the great sacrifices people are ready to make when it is for the benefit of disabled soldiers. In this connection I will mention a small workshop fitted up in Berlin by the generosity of a private individual.

"In the program made out for me by the medical authorities was included a visit to the Kaiser-Wilhelm-Haus in Ziegelstrasse. I had no knowledge beforehand of this institution, and my astonishment, therefore, was great when the staff medical officer who was taking me round led me into the old Langenbeckhaus, with which I was so familiar from attending medical congresses in it for twenty years. The physician in charge took me into the airy workshop arranged in the building's large assembly room. The portraits of noted surgeons that formerly adorned the walls had disappeared, and instead of voices raised in scientific discussion, there was now only the noise of machinery and motors, run by more or less maimed and crippled soldiers. This improvised workshop is devoted exclusively to repairing rifles and other firearms from the state firearm factory at Spandau. Although this required very delicate work, yet it was being done satisfactorily by these crippled men. There were 150 in all; they had completed their hospital course and were installed in a so-called *Sammelstelle* nearby. During the pauses in the work, the men were given treatment with massage, diathermy, etc., in the hall two stories above. The men worked only two hours a day at first, but this was gradually increased to six hours. As they grew more skilful, they left the institution to seek positions in civilian circles. All the workers were paid for their labors, at first by the hour and later a regular wage. The figures given me by the physician in charge showed that some of the men getting this wage in addition to the army pension were receiving a larger income than that of an ordinary normal workman. Here, too, I learned that the workmen at first were very unwilling to take hold and perfect themselves in the work, from fear that their pension would be reduced as they grew more skilful. Since, however, the socialist paper, *Vorwaerts*, published an explicit statement that this fear is entirely unjustified, the men are no longer swayed by it. A copy of this paper is given to every newcomer, and the work proceeds undisturbed by any such scruples.

"In regard to the payment made the men for their work while they are learning, it is evident that with such a widespread organization without any centralized head, the system comprises all kinds of principles; but it is generally recognized that at the beginning of training the man's work is not worth very much. At Görden the men are merely given premiums for regular and persevering work and industry. The premiums range from three cents up to twelve and a half a day. Skill premiums are given to those who have lost a leg or arm who display special ingenuity in dressing and in eating as well as at their work.

FARMS FOR DISABLED SOLDIERS

"A German physician, du Bois Reymond, urged as long ago as 1915 that disabled soldiers should be taught farming, above all, as owners of their homes. On account of the extraordinary numbers of wounded, it is out of the question for them all to have their own farms to cultivate, but when a strong love of rural life, with some experience in farming, is encountered along with some capacity for manual work, the presumptions are in favor of success in the cultivation of a farm. Money to buy the land is the greatest obstacle to this, and the state is empowered to rent land free for the first few years under these conditions. Capital for buildings, etc., can be secured at a low rate from the numerous home-ownership associations. The soldier's pension is usually enough to pay the interest, etc., on the debt. He has thus only to supply with his own labors the direct living expenses of himself and his family.

BLINDED SOLDIERS

"Among all the wounded, none arouse so much compassion as those who have been blinded. The soldiers have given their best for their country—their eyes. Those born blind are usually contented with their lot; but the sudden loss of vision is inexpressibly depressing. During the Crimean War, about 0.65 per cent. were blinded; during the Franco-Prussian War, 0.86 per cent.; in the Russo-Japanese War, 0.22 per cent. But in the present war, from 5 to 8 per cent. of all the wounded have been eye-wounds. The effort is made to collect all the blinded in special institutions where they have the advantage of specially trained ophthalmologists. In all cases in which one or both eyeballs have been lost, it has been found wise not to delay in fitting an artificial eye. The making of these eyes has reached such perfection that it is difficult to distinguish them from a normal eye. Knowledge of the fine cosmetic result has proved very favorable in restoring the patient's peace of mind, and given him greater confidence. From the practical standpoint it is very important that the man's first training begins in the hospital as soon as his general condition permits. Chief in importance is his learning to know things and find his way around by touch. Experience has shown that the blinded soon learn to find their way around a familiar room, and make themselves useful; then gradually they learn to find their way about a strange room and on the street. Then instruction is begun in writing and reading the script for the blind, and if the man is long in the hospital, occupational training is begun, making baskets and nets. Those inclined to be musical are given instruction and encouraged to entertain others with their music, but great care is taken not to allow this to be carried too far, as otherwise there is danger that the men on leaving the hospital may not feel inclined to go to work. The *Vorwaerts* paper telling that increased skill will not lead to reduction of their pension, printed in the letters for the blind, is given to them, and also the notices of openings for them after training in occupations available for the blind. These are mainly piano tuning, massage, typewriting, telephone service and music. Experience has shown, further, that the blinded can run certain safe machines and thus serve in the manufacture of certain articles, thus opening industrial life to them. As a rule, the real occupational training does not begin until the man has left the hospital. It usually requires about two years. Of course it is often difficult to find positions for the blinded even after they are well trained. Consequently it is wise for the blinded to keep always in touch with their training school. Even for well educated blind persons, the circle of occupations open to them is limited. It has been said in various quarters that the state will have to contribute by making positions for the blinded. I have not entered into the question of the size of the pensions given disabled soldiers, as this varies with the degree of disability; but I will mention that the war blinded receive a regular pension of 1,368 marks ($355), with an additional 360 marks for underofficers. Officers are given a pension of 4,000 marks, with peace pay of 3,000 marks, and more in proportion to the regular pay. I was not able to get any figures as to the actual number of blinded soldiers; that the number must be large is shown by the 5 to 8 percentage of wounds involving the eyes. In April, 1915, after six months of the war, the number of blinded in Germany, outside of Saxony, Wurttemberg and Bavaria, was said to be 300.

THE ONE-ARMED

"A large proportion of the disabled have lost an arm. As the left arm is unprotected when the soldiers are lying in the position for shooting, the left arm is wounded more often than the right. The wounds in the left arm are sometimes exceptionally serious on account of the wrist watch being shattered by the projectile, the fragments acting like secondary missiles, inducing extensive laceration and compelling amputation. The right arm is frequently wounded also. In all the training schools, special attention is paid to training the left hand to write. This is considered the basis of training in the use of the hand, fitting it for other important tasks. When the one-armed has learned to get along without the help of others, dress himself, eat, write, and use simple tools, he is soon anxious to start in on some regular work. His relatively high pension protects him against actual want. If he wishes more than this to support himself and family and be a useful member of the community, he has to take up some occupation. The state provides the one-armed soldiers with two prostheses, the working arm, with devices to be attached to serve as hooks, rings, claws, etc., according to the work he has to do. For Sundays and holidays he has another arm, the Sunday 'beauty arm.'

RESUMPTION OF STUDIES BY WOUNDED STUDENTS

"According to a special decree of the medical department of the war ministry, wounded and sick students who have been sent back from the front for care in the home zone, whose studies had been interrupted by the call to the colors, are sent to cities where there is a university or college so that they can be carrying on their studies during their convalescence. Of course this applies only while they are unfit for service; under no circumstances is their return to the front to be delayed on this account. This decree is intended particularly for those students who are so disabled that there

is little likelihood that they can return to active service, or only after a long interval. It has been found that these special arrangements for students have materially aided in their completing their special training. The medical chief of the home zone hospitals also has it in his power to extend the same privileges to any sick or wounded soldier who at the outbreak of the war was taking special training in any branch.

SPA TREATMENT FOR SICK AND WOUNDED SOLDIERS

"Among the most important and effectual therapeutic measures for the after-treatment of the wounded are the courses of treatment at mineral springs and other health resorts which are so numerous in Germany. Even before the war, there had been special arrangements for such courses for sick officers and privates. By the new regulations that came into force in 1915, these provisions were much extended, and the number of these curative institutions materially increased. They now number 200, and the official list specifies the different curative features of each.

REMUNERATIVE EMPLOYMENT FOR DISABLED SOLDIERS

"To secure positions for disabled soldiers is as difficult as it is a huge undertaking. Time has shown that manufacturers, farmers, merchants and foremen of shops are ready to take disabled soldiers into their employ. As this securing of jobs is too large a task for private enterprise, the government war department publishes a weekly bulletin with articles bearing on the question of employment for maimed soldiers. It publishes lists of help wanted in all the trades and occupations open to the disabled soldiers. This bulletin is kept on file in all the army offices even at the front, at all the hospitals of all kinds, the health resorts, etc., and is everywhere easily accessible for the wounded men. The different trades open to them are too long to enumerate.

DISABLED OFFICERS

"All that has been said of the wounded men applies also to disabled officers. The absolutely disabled are taught a new occupation, if necessary. An organization has been formed, the Deutsche Hilfsbund für kriegsverletzte Offiziere, which aims to advise disabled officers and help them to prepare for a new career, providing them with opportunity for academic study or training for commercial, technical or mercantile positions. Berlin university allows disabled wounded officers free access, without registration or fees, to the lectures in every department.

PROGRESS IN MAKING ARTIFICIAL LIMBS

"Great progress has been realized in the making of artificial limbs. The general interest in the question is best shown in the numerous endowments for prizes for improvements in prostheses. In Magdeburg a society has been formed for distribution of prizes for improvements in this line. The special features in which improvement is particularly needed are specified in the announcements of the society. The Verein deutscher Ingenieuren has offered 15,000 marks, nearly $4,000, for the best artificial arm for industrial workers, bearing in mind simplicity, durability and light weight, ease in taking off and putting on without help from others, and adaptability to the use of various tools. German engineers have also been officially urged to apply their inventive talents to the construction and improvement of prostheses—a field which had been neglected in Germany before the war. On the initiative of the government, courses of training for instrument, prostheses and bandage makers have been organized, in order that all innovations and improvements in this line may become as widely known as possible without delay. A permanent exposition of prostheses and aids for the crippled is kept open at Charlottenburg, which I visited. All the technical devices it is possible to conceive of were there displayed, including tools, instruments and machines as used in different trades and adapted for the disabled men, with demonstrations as to their use by the maimed and crippled.

"An official decree, dated September, 1915, gives detailed instructions as to the providing of prostheses for the wounded. Later instructions were given also as to preparing the stump for the artificial limb. An enthusiastic German writer in an official communication said in regard to the progress that had been realized in the matter of artificial limbs, 'Every week, one might say every day, brings new suggestions, new inventions, and much which seemed yesterday to be useful and important will in a short time have only historical interest.' Allowing for the exaggeration in these remarks, the outsider must admit that the world war has brought great progress in this field."

Therapeutics

PNEUMONIA

ITS PREVENTION AND TREATMENT

Pneumonia is today the most serious acute infectious disease confronting the physician. Second only to tuberculosis among the acute infectious diseases as a cause of death, it attacks suddenly and kills quickly.

Occurring usually in endemic form, it also appears frequently in epidemic form, and has become one of the most threatening of the diseases that attack soldiers. No better evidence of this is needed than the list of causes of death of soldiers in our expeditionary forces and the large number of cases in our cantonments, several of which have already suffered severely from epidemics occurring secondary to measles and other infections as well as in the primary form.

DEFINITION

In outlining a plan of procedure to follow in the prophylaxis and treatment of pneumonia it is essential to have clearly in mind the causation and natural course of the disease. Pneumonia, or inflammation of the lungs, includes acute lobar pneumonia as well as various forms of atypical and bronchopneumonia.

THE INFECTING ORGANISM

Acute lobar pneumonia is due to infection by the pneumococcus, usually runs a rapid course, and is characterized by a diffuse exudative inflammation of large parts of one or more lobes of the lungs. Bronchopneumonia, on the contrary, may be due to a variety of bacteria, but is usually associated with streptococci. Most cases of pneumonia which follow or complicate contagious diseases are due to streptococci, i. e., are septic pneumonias.

Mathers[1] studied a series of cases of pneumonia of atypical types, occurring during and following attacks of grip in 1915-1916. The clinical and pathologic picture was that of a streptococcus bacteremia with metastases in the lungs, joints, kidneys, serous surfaces, gallbladder and appendix. The prominent gross pathologic lesions were extensive hemopurulent pleuritis and pericarditis, marked hyperplasia of the lymph glands, parenchymatous degeneration of kidneys, liver and myocardium. The lungs were usually only partially consolidated, very heavy and pliable. Often most of an entire lung was involved. In almost all cases hemolyzing streptococci were present in the sputum and lung. These cases correspond to those often observed in association with diphtheria, scarlet fever, measles, etc. It is likely that the cases of pneumonia occurring so extensively in connection with epidemics of measles in our training camps are in large part of this sort.

While we have been in the habit of saying that lobar pneumonia is caused by the pneumococcus, recent studies have shown that strains of pneumococci which are alike so far as cultural properties are concerned are still widely separated in their biologic qualities.

When the study of pneumonia at the Hospital of the Rockefeller Institute[2] was undertaken, a large number of races of pneumococci were isolated and studied as to their immune reactions. Animals were

1. Mathers, G.: Tr. Chicago Path. Soc., April 1, 1916.
2. Avery, O. T.; Chickering, H. T.; Cole, R., and Dochez, A. R.: Monographs of the Rockefeller Institute, No. 7, Acute Lobar Pneumonia, Prevention and Serum Treatment.

immunized to each strain, and the blood serum of each immune animal was then tested as to its power to agglutinate each of the strains and also as to its power to protect mice from infection by each strain. As a result of these studies the strains of pneumococci grouped themselves into four classes or types. The serum produced by immunizing with each member of a group acted in a similar manner on all the strains of the group, agglutinating the bacteria and protecting mice against infection. On the contrary the serum produced by immunizing with a member of one group had no such power over the strains of the other groups. The four groups of pneumococci are spoken of as Types I, II, III and IV. Type I is found in 33 per cent. of cases of lobar pneumonia; Type II in 29 per cent.; Type III in 13 per cent., and Type IV in 20 per cent. The pneumococci found in normal mouths belong to Type IV.

These studies have a very important bearing on the prophylaxis and specific treatment of lobar pneumonia. Making use of the serum of animals which have been immunized against cultures of the four types of pneumococci, it is possible to test the strain from each case of pneumonia and to place it under the type whose corresponding serum causes it to be agglutinated. This is very important if immune serum is to be used, as the only cases of pneumonia which are benefited by serum are caused by organisms of Type I.

In 448 cases studied in the Hospital of the Rockefeller Institute, 145 were of Type I, 148 of Type II, 55 of Type III and 100 of Type IV. Of these cases, pneumococci were found in the blood in 136 instances. The mortality when the organism was found in the blood was 55.8 per cent., whereas in the 312 cases with negative blood cultures, the mortality was only 8.3 per cent. This shows that the presence of the pneumococcus in the blood during lobar pneumonia indicates a severe infection and a bad prognosis.

GENERAL CONSIDERATIONS

Although pneumonia has been considered a self-limited disease tending to recovery, this can hardly be said to be generally true. The sthenic type of pneumonia which does tend to recovery, with one or more lobes distinctly involved, is now not so frequent as a less circumscribed pneumonia, or an asthenic type with a low temperature and without much tendency to self-limitation and, as the statistics show, not a great tendency to recovery. The crisis which should introduce recovery means, according to Hektoen,[3] the destruction of the pneumococci in the lungs and blood. This, he says, is accomplished by phagocytosis and by extracellular digestive processes. Therefore, the greatest defense against pneumonia is a production of leukocytosis and of antibodies in the blood. Such patients as rapidly die of a toxemia have this blood defense in insufficient amount. When this defensive process has been produced in sufficient amount rapidly to destroy the pneumococci, the recovery is by crisis; when it is in sufficient amount to destroy them only slowly, the recovery is by lysis. The latter form of recovery is the one that we now see most frequently.

PREVENTION

It has generally been considered that all persons harbor the pneumococcus in the throat, and that it is thus ever ready to attack the person who becomes debilitated, and especially to add its attack to that of the influenza bacillus or to follow a streptococcal infection of the throat or nose. It is no doubt true that exposure and a weakening of individual resistance do play a prominent part. Recent studies of the incidence of the various types of pneumococci in the throat of normal persons, in the throats of those suffering with pneumonia, in healthy persons in contact with cases of pneumonia, as compared with those not in contact, and in the dust of rooms in which lobar pneumonia had not occurred, as compared with the dust of rooms in which cases of pneumonia had occurred, all show that pneumonia, in a considerable proportion of cases at least, arises chiefly by infection from without. It was shown definitely that pneumococci of Types I and II are practically never found except in the environment of persons ill of the disease or in the environment of carriers.

It seems advisable, therefore, henceforth to regard every case of pneumonia as a focus for the spread of the infection, and the same measures should be instituted as have been found efficacious in other communicable diseases. These include primarily (*a*) isolation of the patient as far as is possible and convenient, (*b*) collection of the sputum in special containers and its disinfection, and (*c*) sterilization and prevention of contamination from utensils, bedclothing, personal clothing, handkerchiefs, and other material in close contact with the patient.

The physicians, orderlies or nurses in attendance on patients with pneumonia should practice the greatest care in order to avoid transmitting the disease to others. This involves the wearing of a clean gown when attending patients, the thorough cleansing of the hands by soap and water before and after attending each patient, and, as has been suggested by Weaver, the wearing of a simple protective face mask when in attendance on patients. This not only prevents the physician or other attendant from becoming infected, but also prevents the patients from becoming infected through their attendants with secondary infections with organisms which they do not already have.

The room in which the pneumonia patient lies should be cleansed daily to avoid dissemination of dust, and after the patient's recovery it should be thoroughly aired, washed and sunned to dispose of any remaining organisms.

Cases of the common contagious diseases, as measles and scarlet fever, in which secondary pneumonia occurs should be isolated and not allowed with uncomplicated cases. Those attending such cases may have the protection offered by gauze masks, as recommended by Weaver. In a recent editorial by Victor C. Vaughan[4] on "Measles and Pneumonia in Our Camps," the principles involved in preventing the spread of pneumonia are clearly stated. He says: "Valuable as improvements in the determination of the types of the pneumococcus and the development of curative serums are, the prevention of infection and the limitation of its spread are far more important."

CARRIERS

Finally, a search should be made for pneumococcus carriers of the organisms of Types I and II especially, and these carriers should be instructed as to prevention of the spread of the organisms. They may also be provided with a disinfecting mouth wash or gargle, and should use it persistently until the organisms have disappeared from the throat and the sputum.

3. Hektoen, Ludvig: The Mechanism of Recovery in Pneumonia, THE JOURNAL A. M. A., Jan. 24, 1914, p. 254.

4. Jour. Lab. and Clin. Med., January, 1918.

Kolmer and Steinfield[5] refer to the studies of numerous observers who have shown the high pneumococcidal activity of ethylhydrocuprein hydrochlorid and of quinin preparations. They studied the possibility of disinfecting the sputum and the mouth with such preparations. The results indicated that 1:10,000 dilutions of ethylhydrocuprein hydrochlorid or quinin bisulphate, quinin hydrobromid, and other cinchonics in a 1:10 dilution of liquor thymolis[6] constitute mixtures that may readily be used as mouth washes or gargles. Such a gargle may be used at least twice daily by those in contact with pneumonia cases, as well as by persons with pneumonia. Similar dilutions in Dobell's solution may be used for spraying the nose. For washing the mouth and gargling, a solution is conveniently prepared after the following formula:

	Gm. or C.c.
℞ Ethylhydrocuprein hydrochlorid or quinin bisulphate	0.005
Liquor thymolis	5.0
Distilled water to make	50.00

PROPHYLACTIC VACCINATION

Prophylactic vaccination against pneumonia with killed organisms has been studied on a large scale by numerous observers. The results of these studies have been carefully analyzed by the workers in the Rockefeller Institute. They believe that the results of studies on animals indicate that the employment of this method would result in a great saving of human life. Studies on the production of immunity in animals suggest strongly that more effective and rapid immunity may be produced by the frequent injection of small amounts of vaccine than by the infrequent injection of large amounts. Lister, who recently studied an epidemic in South Africa, concluded that "three subcutaneous inoculations, at seven days' interval, should be employed; each dose should consist of 6,000 million cocci of each group against which immunity is desired." He found that his own serum still contained agglutinins and opsonins against the types of organisms injected eight months after the last inoculation.

TREATMENT

1. *Rest.*—The patient's rest should be as near perfect as possible. Not only should the room be situated for the best possible fresh air, but it also should be as quiet as possible. Friends and relatives should not disturb the patient. Sleep and a quiet heart are more essential in pneumonia than in almost any other disease. Perfect rest does not mean that the patient should not be turned frequently, or that he should not have at times several pillows. The point should be emphasized that the circulation in the lungs should be changed by alterations in position. A patient with pneumonia should not lie flat all the time. Hypostatic congestions readily occur with pneumonia, especially if the heart's action is impaired.

It is most desirable that such patients receive hospital care and attention. If transfer to a hospital is to be made, the patient should not be allowed to stand, dress and walk, but should be moved with the least possible exertion to himself.

It is questionable whether sufficient value attaches to baths to justify too frequent disturbance of the patient for their application.

2. *Fresh Air.*—It has now long been demonstrated that a pneumonia patient has less fever, a slower pulse, a better blood pressure, and breathes less frequently in cool, clean air than in close house air, and this whatever the season. Wards on the roof are very valuable for hospitals in the treatment of pneumonia as well as tuberculosis. The balcony, veranda, or even tent treatment of pneumonia is advisable at certain seasons of the year with certain types of patients, when such facilities are obtainable. It is always essential that the room of a pneumonia patient should have more than one window — the more the better — and that these windows should be open, except when the patient is being bathed or his clothing is being changed. Under no circumstances is it wise to have a draft of cool or damp air blowing directly over the patient's face, but screens can modify the direction of the wind or brisk air. Very young children and old persons should not be subjected to severe cold atmosphere, while older children and strong adults may not only endure cold, but may even thrive in it. The fresh air or outside air treatment of pneumonia is subject to the modification of common sense. If a patient's body and extremities become cold or chilled when properly covered, the fresh air treatment is too severe.

3. *Diet.*—The food should represent something of all the elements required for nutrition. This means protein in the form of eggs, meat juices, properly made meat broths and milk. The eggs may be in any form desired, except fried. The milk should never be sufficient in amount to cause intestinal gas, or gastric indigestion.

The next necessary element for nutrition is starch, and it should not be forgotten that many a seriously ill patient may die of acidemia from carbohydrate starvation. Egg albumin and milk do not represent the proper food for patients more than a few days. The starches can be presented in cereal gruels, rice, oatmeal, malted milk, toast, crackers, and even by potato soup. Ice cream, custard, chocolate, and a small amount of sucrose or lactose are all of value.

The patient should be allowed plenty of water, as, however valuable a deprivation of water may be in aborting an acute cold or acute bronchitis, it is not advisable to withhold water in pneumonia. Unless there are edemas from a failing heart or from kidney insufficiency, water will increase the amount of urine and therefore remove more products of waste metabolism from the blood, thus tending to prevent the toxemia which is to be feared. Water promotes the secretion of the skin, which is desirable, and also renders the exudate in the lungs less tenacious and more easy of expectoration.

Elements of nutrition which must not be forgotten are: sodium chlorid, iron when meat juices are not given, and lime when little milk is given, and especially if there is much blood in the expectoration. The sodium chlorid can be given by properly salting the patient's food, especially his gruels, and even at times his milk. The iron may be given as a saccharated oxid of iron, 3-grain tablet, crushed at the time of taking, or crushed by the patient's teeth, and administered twice a day. The lime may be given as lime water in tablespoonful doses in milk or in water, three or four times in twenty-four hours; or it may be given in a capsule as calcium glycerophosphate, in 0.3 gm. doses.

5. Kolmer, J. A., and Steinfeld, Edward: The Disinfection of Pneumococcus Carriers, The Journal A. M. A., Jan. 5, 1918, p. 14.

6. This solution, which is used in the Philadelphia Polyclinic Hospital as a substitute for liquor antisepticus, is prepared after the following formula: benzoic acid, 64 grains; boric acid, 128 grains; thymol and menthol, each, 16 grains; oil of eucalyptus, oil of wintergreen and oil monarda, each, 4 drops; alcohol and glycerin, each, 4 ounces; water sufficient for 16 ounces.

The whole question of the diet is also subject to common-sense modification to fit the patient. There are enough suggestions in the foregoing to furnish sufficient nutrition while meeting almost any patient's desires. The main object is (1) to avoid starving the patient on any element that he requires to promote metabolism and keep up nutrition, and (2) to avoid gastric and intestinal indigestion. If the tongue is heavily coated and the patient is so seriously ill that he does not digest properly, 5 drops of dilute hydrochloric acid in water, directly after his protein meals, will aid the stomach digestion and often clean the tongue. It may also stimulate intestinal digestion. If there is much intestinal gas, the diet should be closely studied to ascertain which food is causing it. Provided the blood pressure is not too high, the heart not too irritable, and the patient not too nervous and restless, coffee morning and noon, or coffee in the morning and tea at noon, or tea both times if the patient prefers, is advisable and often beneficial. Tea and coffee should be considered as representing caffein, and if the action of caffein is desirable, these beverages may be given. They should not be given in the late afternoon or evening, as they tend to prevent sleep.

4. *The Bowels.*—The bowels should move daily. Constipation should be prevented, but a diarrhea is not desirable. A cathartic may be given in the beginning of the disease, the one preferred by the physician. Later, his preferred laxative, whether a cascara mixture or some other combination, should be given. An occasional enema of glycerin and water, 1 ounce of each, will be found valuable. It will empty the colon and prevent the necessity of giving large doses of a laxative or a cathartic. Such treatment will aid in preventing tympanites.

Diarrhea will weaken the patient and add one more element to cause weakness of the heart. If it occurs, the bowels should be cleaned out with a laxative, castor oil if it can be taken, and then movements should be prevented by $\frac{1}{10}$ grain of morphin. Saline cathartics are likely to increase the amount of gas in the intestine, and hence are generally contraindicated. Bismuth is likely to remain too long in the bowels and promote the growth of germs and the absorption of toxins, which will add one more danger in the pneumonia toxemia that is constantly feared. Phenyl salicylate (salol) in 0.25 gm. doses, in capsules, may be given in these diarrheal conditions, four or five times in twenty-four hours, for a few days, and will often stop excessive fermentation.

5. *Abdominal Distention.*—The routine use of a daily morning enema of soap suds has been suggested to prevent this complication. If abdominal distention occurs, milk should be temporarily eliminated from the diet. Compresses soaked in olive oil, 3 parts, mixed with turpentine, 1 part, may be applied. These should be covered with flannels wrung out in hot water, the heat being retained by covering with a thick pad. The hot flannels must of course be renewed frequently, as needed. These may be continued until relief occurs. Following the application of the stupes, medicated enemas may be employed. The following has been suggested:

Oxgall	4 gm.
Oil of turpentine	8 c.c.
Asafetida	12 gm.
Soap suds	2 pints

This is followed in an hour by an ordinary soap suds enema.

Frequently pituitary solution in doses of 0.5 c.c. given hypodermically may be effective.

6. *Care of the Skin and Mouth.*—It is rare, with the proper diet, the proper treatment of the bowels, and with plenty of fresh air, that the temperature in pneumonia is so high as to require sponging with cold water. Even when the temperature is very high, with a cerebral complication, tepid sponging in a warm room is as severe treatment as should be tried. Ordinarily, then, sponging once or twice a day with hot water is advisable, both for the comfort of the patient and to remove perspiration and keep the skin active. The temperature is more or less reduced by the warm sponging, the blood vessels of the surface are slightly dilated, the circulation is equalized, and the normal activities of the skin, which are essential, are increased. Also, warm sponging tends to relieve the tension of blood in the head, and many times aids in promoting sleep. If the patient's temperature is low, hot-water sponging is certainly advisable, and hot-water bags should be used around the extremities and even around the body. Such a condition is often seen in pneumonia in alcoholics. Profuse, cold, clammy perspiration should never be allowed to remain on the patient's body. Warm alcohol sponging in such conditions is advisable, that is, sponging with pure alcohol. A dash of alcohol in a basin of water has no therapeutic or physiologic value, and represents nothing but a fad.

Cleanliness of the mouth, teeth and tonsils is very important. The patient may have infected himself from his own tonsils or his own gums; such possibilities should be remembered, as well as the necessity of keeping the mouth as clean as possible during the illness.

The sputum, being as likely to communicate disease as is that from tuberculous patients, or even more so, should receive the same antiseptic care as does that of tuberculosis. The patient's mouth, excretions from the nose, and the nurse's hands and contaminated clothing or gauze should be treated in the manner so well understood in tuberculosis.

VACCINE TREATMENT

Vaccines during acute pneumonia are of doubtful utility and perhaps sometimes absolutely harmful. They have been tried so extensively under favorable circumstances with such uncertain or unfavorable results that there seems no good reason for continuing their use.

SERUM TREATMENT

As has been stated, workers in the Rockefeller Institute have prepared antipneumococcus serums. The serums against infection with Type I organisms appear to have produced especially good results, and to be highly effective in treatment of cases of pneumonia due to its type of organism. The serum of Type II is much less efficacious and, indeed, it has not yet been thoroughly demonstrated whether it has any valuable effect on the outcome of the disease. The serum for Type III organisms has apparently but slight therapeutic power, and has not been considered worthy of use in infections with this organism; the same is true of infections with Type IV pneumococcus. Commercial preparations of these serums are available and also polyvalent serums. These polyvalent antipneumococcus serums are of extremely doubtful value. It has been suggested that polyvalent serum be given until the type of the organism is determined, and that following this, the specific serum for Type I or Type II

may be utilized if the infection proves to be of that character. With pneumococci, at least as regards the first three types, the immunity reactions appear to be specific, and for this reason the workers in the Rockefeller Institute do not advise the routine manufacture of polyvalent antipneumococcic serums. In fact, they suggest that for the present, the production of antipneumococcic serum should be confined to Type I. It has also been suggested that every pneumonia patient receive, immediately after admission to a hospital, a large dose of antipneumococcic serum of Type I, with the idea that the case may prove to be of that character, and considerable time will be gained.

While cases caused by other types of pneumococci than Type I are not benefitted by serum, it is quite likely that they may be harmed. The intravenous injection of a hundred or more cubic centimeters of horse serum can hardly be devoid of harm and is certainly not to be used except when very decided benefit may be expected to follow its use. Hence the first thing is to determine the sort of bacterium causing the pneumonia in the individual, and if it is a pneumococcus to determine the type to which it belongs. If it is a Type I pneumococcus, serum treatment may be undertaken. The value of the serum in the treatment of pneumonia is uncertain, but the results reported are sufficiently convincing to warrant its further trial under suitable conditions. It should be used only when correct diagnosis of the type of infecting organism has been determined. Under present conditions this can hardly be done, of course, outside of a hospital or in a laboratory which has specially trained workers. The serum may then be used, except in very young children who appear but little intoxicated by the injection, or in adults mildly ill and already showing signs of decreasing fever and intoxication.

Before administering the serum, patients should be questioned as to previous injections of immune serums for diphtheria, meningitis or for tetanus infections, and also concerning previous symptoms suggesting asthma, hay-fever, or special sensitivity to proteins, including those in serum. They suggest also the use of the intradermal skin test, injecting first 0.02 c.c. of sterile diluted horse serum, diluted with salt solution 1 : 10, with injection of a simple salt solution as a control, to learn whether or not the patient is especially sensitive to the serum. If sensitivity is present, the injection of the serum produces a large urticarial wheal surrounded by an area of erythema.

It becomes evident when one views critically the present status of the serum treatment of pneumonia, that it can be properly carried out only in institutions where it is possible to make accurate bacteriologic diagnoses and differentiations of the types of pneumococcus, and where facilities for the intravenous administration of large amounts of horse serum with safety are at hand. Even at best a limited number of cases are suitable for treatment with immune serum, a large proportion of lobar and the very large group of atypical and bronchopneumonias not being susceptible of attack by these measures.

Technic.—The serum is injected into a convenient vein, usually at the bend of the elbow, the skin being previously cleaned with iodin and alcohol. If there are facilities for making blood cultures, blood may be first withdrawn for this purpose. The serum is injected into the vein with a syringe, or by the gravity method, the injection being done steadily and slowly, the injection of the first 10 to 15 c.c. occupying from ten to fifteen minutes. During this time the patient is carefully watched for symptoms of reaction, such as increased rapidity of the pulse, difficulty of respiration, cyanosis or urticaria. If no symptoms arise, the remainder of the injection may be completed in from ten to fifteen minutes.

Dosage.—The amount of serum necessary will vary in individual cases. It is generally believed that the initial dose should be large, perhaps from 90 to 100 c.c. of the standard serum. The specific serum treatment having been begun, it should be continued until a definite favorable result has been obtained, and the serum may be given every eight hours in doses of from 90 to 100 c.c., unless there are contrary indications.

The average total amount of serum required in cases in the hospital of the Rockefeller Institute was about 250 c.c. In many cases an elevation of temperature follows the injection of the serum within from twenty minutes to an hour, and this in turn is followed by a marked fall. If the temperature continues low and the patient's condition is good, no more serum is administered. The temperature is taken every two hours, and if it rises within twenty-four hours to 102 F. or over, a second dose of serum is at once administered. If no fall of temperature occurs following the first dose, or if it does not fall to 102 F. within eight hours, a second dose of serum may be given. The same rule governs the administration of the third or subsequent doses.

MEDICINAL TREATMENT

We are past the stage when any dogmatic advice can be given in regard to the use of drugs in pneumonia. The physician who has charge of a pneumonia patient must decide whether a drug is needed to combat a condition or symptom and which drug is the best for the object aimed at. The following are suggestions of drugs that have positive value for certain conditions, and brief descriptions of the pharmacologic action expected of them:

Morphin or Codein.—If the pain is acute in the beginning of pneumonia, one of these sedatives should be given. Acute pain is depressant and should not be allowed. Strapping of the chest is inadvisable in pneumonia. An ice bag over the painful region of the chest does not abort pneumonia and is generally not desirable, and on account of the generally high fever at this time, hot-water bags are not advisable.

A cough that is frequent and unproductive, as it may be in the first stage of pneumonia, will be quieted and the pain alleviated by codein sulphate in doses of 0.01 gm. (⅙ grain) every two, three or four hours as is necessary.

Acetanilid and Antipyrin.—Acetanilid, 0.1 gm. (2 grains) every three hours for four or five doses, or antipyrin, 0.5 gm. (7½ grains) every four hours for two or three doses, may be of advantage in lowering the high temperature in the first stage of this disease. These drugs also will lower the blood pressure and quiet the heart. Such an action may be needed in the very acute first stage of pneumonia, provided the heart is normal. At this stage the lowering of the blood pressure produced by these drugs is often beneficial. Later in the disease, even if there is high temperature, such coal-tar products are contraindicated.

During the administration of the specific serum, drugs affecting the temperature should not be given,

as this is the best guide to the value of the serum, necessity for repeated dosage, etc.

Ammonium Chlorid.—If the expectoration is very adhesive and cohesive, scanty in amount and hard to raise, ammonium chlorid acts satisfactorily and is indicated. The dose should be 0.25 gm. every two hours, given in a sour mixture, or in lemonade; and if there is much pain or if there is ineffective, frequent cough, it may be combined with codein sulphate. Ammonium carbonate, with its irritant, nauseating action, has no tangible cardiac stimulant action; therefore it should not be used.

Digitalis.—If the patient does not die of the acute onslaught of the germ by incombatable toxemia, or by exhaustion from a later general toxemia, or from a migration of the pneumococci to the meninges, his survival or death depends on the ability of his heart to withstand the disease.

Porter, Newburgh and others have stated, on the other hand, that the heart muscle is not vitally injured in pneumonia. Respiration ordinarily fails before circulation. The heart in pneumonia may be influenced by digitalis in the same way as in normal persons, as shown by Cohn. The workers in the Rockefeller Institute suggest the use of some form of digitalis as a routine in these cases. They use digipuratum, but any other standardized form available may be satisfactory. Its use should be commenced early so that the patient is partially digitalized when necessity arises. Patients are given 0.5 gm. a day by mouth, if seen early. If, on being seen later, they appear quite ill, 1 gm. may be given. When digitalis effects appear, the drug is discontinued as long as the patient's condition indicates that its use is not necessary.

Strophanthin.—This drug, in recently made sterile ampules and injected directly into one of the veins in the elbow, provided digitalis has not been recently administered, is often efficient in tiding a patient over a shocked condition. It should rarely be repeated.

Strychnin.—This is a drug that has been very much overused. Clinically, strychnin often does very good work and even seems to tide our patients over critical periods. In a sluggish, inefficiently contracting heart, when digitalis is contraindicated, strychnin may be of benefit. The rule for strychnin should be, when indicated as shown by this discussion, to give to an adult not more than $\frac{1}{30}$ grain, hypodermically, if deemed advisable, once in six hours, and such a dosage should not be long continued. As soon as there is improvement, it should be given by the mouth instead of hypodermically.

Camphor.—Laboratory findings and some hospital reports have not shown that camphor is of value in heart failure. On the other hand, clinical experience at the bedside not infrequently shows that hypodermic or intramuscular injections of a sterile preparation of camphor and oil improves the pulse as to its regularity and volume, causes the surface of the body to be warmer, and often relieve a cardiac dyspnea by thus equalizing the circulation. When there is cardiac dyspnea, when the pulse is small, and especially when it is slow and weak and the surface of the body is cold, and when there is cold perspiration, that is, a partial collapse condition, camphor given hypodermically every three or four hours until there is improvement may be of benefit.

Caffein.—The administration of this drug as coffee or tea has already been discussed under diet. Perhaps no drug, except epinephrin, the action of which is very fleeting, so frequently raises the blood pressure in serious conditions as does caffein. In emergencies it may be administered hypodermically, or it may be given by the mouth several times in twenty-four hours. It should not be forgotten that it is a cerebral stimulant and not a sleep producer. Its action on the heart is almost always for good, except in some few patients who show an idiosyncrasy to it, the heart becoming irritable from any form of caffein.

Oxygen.—This has been used by inhalation, but observers have not agreed as to the effects. S. J. Meltzer[7] has recently recommended its use by insufflation. Sufficient data is not at hand to admit of any opinions as to its value.

Venesection.—In some cases with the right heart distended with blood, venesection gives great relief.

Nitroglycerin.—When pneumonia occurs in a full-blooded, sturdy man, especially if he is of the age when his blood pressure is a little high, small doses of nitroglycerin, as $\frac{1}{200}$ to $\frac{1}{100}$ grain, every four to six hours, tends to dilate the peripheral vessels and relieve the internal congestion. It also slows and quiets the circulation. By bringing more blood to the surface of the body, it also tends to promote loss of heat and a reduction of temperature. It will never weaken a heart as long as the blood pressure is high; it should not be used if the blood pressure is low.

Hypnotics.—It is hardly necessary to name the different hypnotics. As stated above, in very weak conditions the only safe hypnotic is morphin. In delirium and in insomnia it may be well to use some other hypnotic than morphin. Almost any one of them causes some subsequent cardiac depression. The best hypnotic is perhaps chloral, although there is prejudice against its use. Probably an effective dose of chloral is no more depressant to the heart than is an effective dose of any other hypnotic.

Ethylhydrocuprein Hydrochlorid.—This drug, when first advanced, was reported to have a specific bactericidal effect on pneumococci both in vitro and in vivo. Extensive studies have been made as to whether or not it has a curative effect in pneumonia. In general, no definitely beneficial effects have been observed, and, in fact, it has been found that its routine use internally may involve danger of the drug's producing injury to the eyes. Because of its proved effect on the organism, the use of the drug or of quinin, of which it is a derivative, in mouth washes or gargles, seems justifiable.

CONCLUSION

There is no specific cure for most cases of pneumonia. The resources of the physician will be taxed and his judgment put to a severe test by many a case of this disease, but a successful outcome in many apparently hopeless cases will reward his efforts.

As stated at the outset, a restful, quiet room, a sensible, efficient nurse, a sufficient amount of fresh air, and a suitable diet and proper care of the bowels will prevent high temperature, heart failure, low blood pressure, insomnia, tympanites and toxemia in very many cases, and prevention is far better than the treatment of these serious conditions.

7. Meltzer, S. J.: The Therapeutic Value of Oral Rhythmic Insufflation of Oxygen, THE JOURNAL A. M. A., Oct. 6, 1917, p. 1150.

Happiness.—Our happiness in this world proceeds from the suppression of our desires, but in the next from the gratification.—*The Spectator.*

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JUVENILE DELINQUENCY

There is a widespread belief that the causation of delinquency is to be found in mental and physical defects of the individual that might in many instances be remedied or ameliorated if they were properly recognized. For this among other reasons, there has been a growing demand for the basic facts. It has become obvious, for example, that the idiotic and the feebleminded cannot be cured. No way is known by which they can be made normal; and as the conditions represented by such persons are both incurable and congenital, our attention must be turned to the prevention of feeblemindedness in the future. The difficulties that this offers can better be appreciated when it is realized that a conservative estimate by Goddard has placed the number of feebleminded persons in the United States at not less than a quarter of a million.

At the Second Pan-American Scientific Congress, held in Washington in 1916, Dr. Healy, the director of the Psychopathic Institute of the Chicago Juvenile Court, stated that the after-careers of young offenders studied some years ago show clearly the immense importance of investigating the causation of delinquency at the only time that it really can be studied satisfactorily, namely, during the years when delinquency begins. All of our experience goes to show that the many writers who insist that practically all criminal careers begin during youth are entirely correct. Not only is the high point for crime according to ages well within the later years of adolescence, but also many delinquents begin their careers even younger. Thanks to the French psychologist, Alfred Binet, it is now recognized as possible to measure the intelligence of children, and it has been demonstrated that normally the intelligence develops as the body develops. Any child that does not have the intelligence normal to his age is said to be defective, and if his intelligence is as much as three years behind the chronologic age, he is considered mentally defective or feebleminded. The change that this discovery has brought about in our thinking and in our attitude toward various social groups is remarkable, says Goddard. We are realizing, he adds, that many persons whom we thought bad, vicious, perverse, careless, indolent or lazy, the result of bad environment in one form or another, are in reality feebleminded. Because of their lack of intelligence they have fallen victims to the bad influences of their environment, which, had they been normal, they would easily have overcome.

For the idiot and the imbecile we need have little concern in any scheme to educate or rehabilitate the delinquent. Their permanent status is better understood. The morons, or "persons who on account of brain defect existing from birth or early age are unable to compete with their fellows in the struggle for existence or to manage their own affairs with ordinary prudence," offer greater difficulties because frequently they are scarcely distinguishable from normal persons except by the expert. They represent the type of persons of whom Richard Cabot has said that they have an excellent appearance, and can talk intelligently on many subjects, but are forever unable to go without a hand on the shoulder, without some guidance.[1]

To what extent are the juvenile offenders, who offer such serious social problems to almost every community, recruited from the hereditarily unfit of the types just discussed? On the recognition of their make-up the solution of the question of delinquency depends in no small measure. The physician and the psychologist are being drawn more and more into cooperative relation with the courts. Recently Faber and Ritter,[2] of the Department of Pediatrics in the Leland Stanford Junior University School of Medicine, undertook a study of the boys placed in the care of the Boys' and Girls' Aid Society of San Francisco by various juvenile courts of California. The great majority of these boys were committed to detention because of truancy, incorrigibility or active crime. The investigation was planned primarily to disclose physical and mental defects; but incidentally the home conditions of the mentally normal or dull normal boys were inspected. The mental findings made by means of modern child intelligence tests showed that of the boys studied, 43.6 per cent. were normal; 25.5 dull normal (total normals 69.1 per cent.); 17 per cent., borderline; 9.6 morons, and 4.3 imbeciles (total defectives, 30.9 per cent.). Taken as a whole, the physical defects were those common to any group of children whose hygiene has been long neglected.

It is evident, therefore, that delinquency is by no means confined to the mentally or physically incompetent. The situation is more serious in that it involves normal persons who have become delinquent. This needs to be widely emphasized. The Stanford investigators believe that for the normal boys improved environment, improved personal hygiene, and better general education would have made useful citizenship possible.

1. Cabot, Richard: A Layman's Handbook of Medicine, 1916, p. 254.
2. Faber, H. K., and Ritter, A. J.: A Mental and Physical Survey of a Group of Juvenile Delinquents, Am. Jour. Dis. Child., December, 1917, p. 444.

In the case of defectives, feeblemindedness is in itself a sufficient explanation of delinquency. Those who belong in this category should be promptly segregated from normal persons. For the latter Faber and Ritter urge careful and systematic attempts at education in order to determine and develop latent ability. Without special and extremely capable training, they say, these boys, who have potentialities not only of "floating" in society and of becoming good citizens, but even, in some instances, of attaining positions of superiority, will inevitably return to a career of delinquency or crime from which at a slightly later age it will be impossible to rescue them. Now that we have already swerved in this country from the tradition of set punishment for each offense, the courts are entitled to all the help that medical and other sciences can give toward the decisions that must be made. Such reports as we have referred to are desirable in larger numbers before the etiology, diagnosis, treatment and prophylaxis of delinquent tendencies can be properly developed.

MANIFESTATIONS OF OLD AGE

The importance of the acid-base equilibrium of the organism, or the mechanism whereby the hydrogen ion concentration of the blood and tissue fluid is maintained within certain narrow limits of variation, has been dealt with repeatedly in these columns.[1] When this highly significant function, which ordinarily responds to all sorts of physiologic "strains" involving a change in the production or distribution of acids and bases in the metabolism, is upset or overtaxed, pathologic effects promptly manifest themselves. It is fundamental, therefore, that the mechanism should remain sensitive, that it should respond promptly to the emergencies which attend abnormal conditions in the body.

It is a characteristic of old age that, during this period of life, once efficient functional organs may break down. The bodily machine wears out sooner or later; sometimes it is the heart, sometimes the kidney or the nervous system that fails to do its full duty in the declining years. MacNider[2] has discovered that the mechanism by which the acid-base equilibrium is controlled is not so easily kept within the bounds of normality in the later years of life as it is in youth. His evidence is derived from the studies on nephritis and allied conditions that have been conducted for some years at the Laboratory of Pharmacology in the University of North Carolina. Thus, uranium, which induces an acute nephritis, was found to be more toxic in this respect for old animals than for younger ones. The acid intoxication that attends uranium poisoning develops much earlier in older subjects. The old animals show an earlier appearance in the urine of acetone bodies, a greater quantitative output of these substances, and a greater tolerance for an alkali.

Again, by the intravenous use of an alkali in young animals, the kidney can be successfully protected against the toxic effect of an anesthetic, while in the older ones the difficulty of furnishing such protection appears to increase with the age of the animal. Old animals also show a severer grade of acid intoxication, in uranium nephritis, as indicated by a more marked increase in hydrogen ion concentration of the blood, which is associated with a more rapid depletion of the alkali reserve of the blood and a greater reduction in the tension of alveolar carbon dioxid. MacNider says that, associated with this change in the acid-base equilibrium of the blood, there develops a kidney injury which is histologically more marked in the old than in the young animals. The acid-base equilibrium of the latter is more easily restored after an upset. The degree of protection furnished the kidney seems to depend on the animal's age. Senile changes in the organism thus involve something more than mere anatomic alterations; they may include the most fundamental chemical performances on which the life processes are dependent.

1. Nephritis, Blood Phosphates and Acidosis, editorial, THE JOURNAL A. M. A., May 5, 1917, p. 1326; The Estimation of Acidosis Under Clinical Conditions, May 5, 1917, p. 1327; The Newer Conception of Acidosis, Aug. 25, 1917, p. 646; The Output of Bases after Intake of Acid, Oct. 6, 1917, p. 1172.

2. MacNider, W. deB.: Concerning the Influence of the Age of an Organism in Maintaining Its Acid-Base Equilibrium, Science, 1917, 46, 643.

THE PROTEINS OF THE BLOOD PLASMA

Although probably more is known about the composition of the blood than of the chemical make-up of any other tissue of the body, our knowledge of the subject must still be regarded as decidedly fragmentary. A striking characteristic of the blood is its large content of protein substances. The abundance in which these are present of itself directs attention to their presumable importance. Liebig taught, more than fifty years ago, that the blood proteins were the foodstuffs *par excellence* of the body. The dominance of his authority served for many years to support the readily conceived hypothesis of the immediate nutrient property of the plasma proteins. Ingested nitrogenous nutrients were conceived to be converted somehow into blood proteins during or after their absorption from the alimentary apparatus, so that a uniform nitrogenous pabulum was offered to the hungry cells.

In view of this one might expect that the content of proteins in the blood would vary widely according to the momentary nutritive condition of the organism. Modern physiology has demonstrated that there is, on the contrary, a surprising uniformity of composition and an unquestioned specificity of quality in the blood proteins. Abderhalden's researches on the composition of the latter after the feeding of large quantities of protein decidedly unlike that in any part of the body showed that if there is a new construction of proteins from the amino-acids formed in digestion, such pro-

teins are characteristic of the organism and do not possess the properties of the proteins originally ingested. The distinctive antigenic properties of the blood proteins likewise seem to be essentially unmodified by diet. Blood proteins and tissue proteins are radically different from a biologic standpoint.

Some attention has been devoted toward ascertaining the rôle of the serum proteins under extreme variations of bodily condition brought about in both physiologic and pathologic ways. Recently Hanson and McQuarrie[1] of the Physiologic Laboratory at the University of California have studied the effect of substances that either retard or accelerate metabolism, with reference to the proportion of blood proteins. Their experimental results consistently indicate that after effective doses of drugs like quinin, sodium cacodylate and thyroid extract, the quantity of albumins and globulins in the blood serum is independent of the rapidity of the nitrogenous metabolism. Even prolonged inanition fails to bring about a change.

So long as there is no direct evidence of the consumption of blood proteins by the tissue cells, the question of the possible nutritive value of these abundant blood components remains open to speculation and research. One function, says Mathews,[2] they undoubtedly have: they give to the plasma one of its most important properties, its viscosity. This is the function of the proteins in the other tissues of the body, for it is the proteins that give the structure, the jelly nature to protoplasm; in other words, it is the proteins that determine the viscosity of the protoplasm. Similarly in the blood, which is a living tissue, the proteins contribute to the viscosity, a matter of much importance in determining the peripheral resistance. Mathews also reminds us that the blood proteins can assist in regulating the reaction of the blood, a phenomenon now recognized to be of fundamental importance for physiologic well-being.

We shall probably not go far wrong, Mathews concludes, if we consider the blood plasma as very dilute protoplasm. The processes which occur in it he conceives as "the mirror of the processes which occur in all forms of living matter." From a somewhat similar standpoint, Starling[3] has felt justified in believing that serum protein may be regarded as a complex unit. By simple means, such as dialysis, dilution, or addition of salt, he says, this unit can be broken up with the separation of the various proteins which have been designated as serum albumin, serum globulin, etc. The question naturally suggests itself, he concludes, whether in plasma we have not a similar combination of all its varied colloidal constituents to form "one labile mass of fluid protoplasm."

1. Hanson, S., and McQuarrie, I.: The Non-Dependence of the Protein Quotient in the Blood-Serum upon the Rapidity of Metabolism with Special Reference to the Non-Effect of Antipyretics, Sodium Cacodylate and Thyroid Extract, Jour. Pharmacol. and Exper. Therap., 1917, **10**, 261.
2. Mathews, A. P.: Physiological Chemistry, 1915, p. 551.
3. Starling, E. H.: Principles of Human Physiology, 1915, p. 867.

SOCIAL WELFARE INVESTIGATIONS

The much-mooted question as to whether there is a direct connection between feeblemindedness and epilepsy was the subject of a recent investigation by the Bureau of Analysis and Investigation, of the New York State Board of Charities. This study,[1] which was begun among the inmates of Craig Colony, showed that 57 per cent. of the cases of epilepsy developed in stock clearly recognized as feebleminded, and 97 per cent. developed in neuropathic stock. In the study of nineteen epileptic families, it was found that feeblemindedness was about 3.6 times as common among epileptic families as epilepsy itself. Further evidence is presented to show that epilepsy, if it may not be directly inherited, is widely scattered through the ancestry of these institutional defectives. The whole report makes it clear that epilepsy and feeblemindedness must be studied together.

The tendency of disease and crime to run in families is well illustrated in a study of five family histories[2] carried on by bureau investigators. A criminalistic family, with all its branches and ramifications, was traced through four generations, and the good elements were balanced against the bad. Other family histories relate to a pauper family and to one in which chorea was prevalent through five generations. The report also contains an interesting study in heredity, dealing with a child suffering from congenital infantilism, which was completely cured by injections of extracts of the pituitary gland.

The board of charities further undertook to investigate the mental condition of the children in twenty-three New York institutional homes and asylums.[3] Mental examination of 2,142 children revealed the fact that less than 7 per cent. were feebleminded. This means that out of a total of 35,000 children in orphan asylums, the state has 2,100 feebleminded dependent children, most of whom need permanent care. In testing the mentality of normal schoolchildren, the investigators found about 10 per cent. backward and feebleminded. As most of the schools provide for the feebleminded, the greater problem seems to be that of the backward pupils, for whom the bureau recommends the founding of craft schools and vocational school farms.

Another report[4] is devoted to a description of thirteen mental tests used for measuring the intelligence of children in institutions and public schools. The tests described are the Knox cube imitation, three number cancellation, recall of objects, peg design, grouping of objects, story reproduction, syllogisms, four detail drawing, three detail drawing, the balance nickel, the peg board, the tower, and the boat test.

1. Nineteen Epileptic Families, Eugenics and Social Welfare Bull. 9, Department of State and Alien Poor, Bureau of Analysis and Investigation, New York State Board of Charities, 1917.
2. Family Histories, Bull. 12, 1917.
3. Mental Examinations, Bull. 11, 1917.
4. Performance Norms for Thirteen Tests, Bull. 8, 1917.

Experiments showed that in tests involving the use of reason and the powers of concentration, the schoolchildren made a better showing than the institutional children, while in the mechanical tests, the two groups attained results more nearly alike.

The methods of the bureau in gathering data for its mental studies are explained in a fifth report on field work.[5] In setting forth the necessary qualifications of the field worker, this report mentions the desirability of full medical training, especially in the knowledge of mental diseases and those having a hereditary or constitutional basis. Another important qualification is the gift of analyzing data, since field workers are constantly confronted with vast social problems. For example, such questions as whether the feebleminded should be allowed to become parents require constructive handling. Field workers must also be familiar with all the sources of data, including the testimony of heads of institutions, poor law officials, and physicians, as well as records of vital statistics and of jails, almshouses, orphan asylums and reformatories. In brief, they must be familiar with every phase of human weakness, physical, mental and spiritual, which makes the abnormal or the subnormal person a problem, if not a burden, to society.

Current Comment

THE SIGNIFICANCE OF IMMEDIATE REACTION AFTER VACCINATION

Perhaps the earliest observation on altered reactivity or allergy is that of Jenner on a peculiar reaction to smallpox matter by the skin of persons who had had either smallpox or cowpox. Jenner records that a woman, who had had cowpox thirty-one years before inoculation with variolous matter, presented an early efflorescence of a palish red about the place where the "matter" was inserted, which spread rather extensively, but died away in a few days without producing any symptoms of variola. He comments thus on this phenomenon:

> It is remarkable that variolous matter, when the system is disposed to reject it, should excite inflammation on the part to which it is applied more speedily than when it produces the smallpox. Indeed, it becomes almost a criterion by which we can determine whether the infection will be received or not. . . . It is remarkable, too, that whether this change has been effected by the smallpox or the cowpox, the disposition to sudden cuticular inflammation is the same on the application of variolous matter.[6]

That vaccination may leave behind a disposition to "sudden cuticular inflammation" on the reapplication of vaccine, that is to say, produce a changed reactivity or allergy, is an established fact; but the knowledge of this fact does not seem to be so widespread as it should be, and the significance of the immediate reaction after revaccination does not seem to be understood generally at all. In fact, practically no attention seems to have been given to it. Revaccination, even many years after successful primary vaccination, frequently fails to produce typical vaccinia, but may be followed by a well marked immediate reaction or by accelerated reaction. In cases of immediate reaction, we may assume that the vaccine material, deposited in the skin, is acted on at once by the antibodies still present in consequence of the primary vaccination, and there results within twenty-four hours after the revaccination a redness, an areola, which fades rapidly without forming a vesicle. In the cases of accelerated reaction, antibodies may no longer be present in sufficient numbers to give rise to an immediate reaction; but the cells are still able to produce them more quickly than the cells in the previously unvaccinated organism; and consequently the growth of the vaccine virus is arrested and destroyed earlier than in typical vaccinia, and there develops about the fifth day a large areola and a small vesicle (the so-called secondary vaccinia or vaccinoid). These reactions, which are reactions of immunity, should be regarded as successful vaccinations, because, as recently pointed out by Force and Stevens,[7] the act of calling out antibodies to produce the reaction brings immunity up to a higher level. They liken the production in this way of increased immunity to the winding of an eight day clock that has been running only two or three days or so since the previous winding. At present practically no attention is paid to the possible occurrence of immediate reaction after revaccination; most vaccinators do not know whether it occurs or does not occur in a given case, and most cases in which it does occur probably are returned as failures of the revaccination to take. This clearly is a misleading practice, which should be given up in favor of one which will set forth more accurately the true facts in each case.

MILK PRODUCTION IN ANIMALS OF OLD AGE

Prevailing circumstances seem to direct attention again and again to the physiology of dairy cattle as a part of the important problem of the milk supply. At the present moment the question of the comparative value of different breeds is quite overshadowed by the pressing necessity of securing milk of any sort whatever. Among the many aspects of its production which have been discussed in THE JOURNAL, that of the age of the lactating animal has not been taken into consideration. Yet this cannot be without moment when decisions as to the disposal of animals of the herd are to be made, particularly at a period of heightened demand for meat products. Several years ago, Hills[8] of the Vermont Experiment Station, made the statement that heifers practically "strike their gait," so far as the quality of the milk flow is concerned, in

5. Field Work Manual, Bull. 10, 1917.

6. Jenner, Edward: An Inquiry into the Causes and Effects of Variolae Vaccinae, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of Cow Pox, 1798, p. 13, Case 4.

7. Force, J. N., and Stevens, Ida M.: The Responsibility of the Vaccinator in Overcoming the Rational Objections to Smallpox Vaccination, Jour. Lab. and Clin. Med., 1918, **3**, 220.

8. Hills, J. L.: The Effect of Age on the Yield and Quality of Milk, Nineteenth Ann. Rep., Vermont Agric. Expt. Sta., 1905-1906, p. 339.

their first lactation; and whatever the effect of advancing years on milk quality may be, it is not profound enough to be of importance until old age becomes imminent. Recently, Eckles and Palmer,[9] of the Missouri Agricultural Experiment Station, have supplied the evidence regarding the possible influence of exceptionally old age in dairy cattle on the composition of the milk. According to this, neither the percentage composition of the milk nor the physical and chemical constant of the milk fat of aged cows shows any abnormalities attributable to old age. Butter made from the milk of a cow 19 years old and in her thirteenth lactation period was pronounced to be of excellent quality. We know of no comparable data in the literature of milk and its products.

THE ABSORPTION AND EXCRETION OF MERCURY

The increasing occurrence of human intoxication by mercury compounds has raised anew the question of the modes of absorption and excretion of this element. It may be regarded as clearly established now that, in addition to the kidneys, the stomach may participate in this eliminatory function quite as well as the other portions of the alimentary tract.[10] This knowledge is of the highest importance for accurate therapeusis; for, since mercury poisoning quite commonly brings with it anatomic lesions of the kidneys resulting in functional incapacity,[11] the encouragement of elimination of the poison through other channels must be attempted. Accordingly, in the now well known procedures advised by Lambert and Patterson,[12] strenuous efforts are made to get rid of the mercury by all possible paths, including colonic irrigation and gastric lavage. The facts regarding the avenues of absorption are not accepted beyond dispute. Regarding the possibility of entrance of the poison by way of the mouth and gastro-enteric tract there can, of course, be no question. The occurrence of severe intoxications through the use of mercuric chlorid in vaginal douches is likewise recognized.[11] The debate, however, has centered around the possibility of absorption through the sound skin. Mercurial inunctions have, it is true, a long and honorable history in therapeutics. But the contention has been made that the mercury thus applied is actually volatilized and absorbed through the lungs in greater part if not entirely. Some recent crucial experiments devised in the dermatologic laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine by Schamberg, Kolmer, Raiziss and Gavron[13] leave little doubt, so far as one can judge from tests on animals, that the skin is an important, perhaps the most important, path of absorption of mercury applied by inunction. Rabbits may be fatally poisoned by mercurial inunctions, even when no opportunity for absorption through the lungs exists. The investigators have noted that metallic mercury in the form of the official mercurial ointment is more volatile and is much more liable to be absorbed by the lungs than are calomel ointments of equal strength; yet the latter are "fully as well absorbed through the skin as is the ordinary blue ointment." If we agree with the further contention that inunction affords the safest method of introducing large amounts of mercury into the system, it seems worth while to give serious consideration to the Philadelphia dermatologists' recommendation that calomel inunctions should "supplant the unclean blue ointment rubbings which have been so long in use."

9. Eckles, C. H., and Palmer, L. S.: Influence of the Age of the Cow on the Composition and Properties of Milk and Milk Fat, Jour. Agric. Research, 1917, **11**, 645.

10. Lieb, C. C., and Goodwin, G. M.: The Excretion of Mercury by the Gastric Mucous Membrane, THE JOURNAL A. M. A., June 19, 1915, p. 2041. The Excretion of Mercury, Current Comment, Aug. 14, 1915, p. 628.

11. Campbell, W. R.: Observations on Acute Mercuric Chlorid Nephrosis, with a Report of Two Cases, Arch. Int. Med., December, 1917, p. 919.

12. Lambert, L. W., and Patterson, H. S.: Poisoning by Mercuric Chorid and Its Treatment, Arch. Int. Med., November, 1915, p. 865.

13. Schamberg, J. F.; Kolmer, J. A.; Raiziss, G. W., and Gavron, J. L.: Experimental Studies of the Mode of Absorption of Mercury When Applied by Inunction, THE JOURNAL A. M. A., Jan. 19, 1918, p. 142.

AMERICAN JOURNAL OF OPHTHALMOLOGY

The first issue of the *American Journal of Ophthalmology* has just appeared. This publication incorporates the *American Journal of Ophthalmology, Annals of Ophthalmology,* the *Ophthalmic Record, Anales de oftalmologia, Ophthalmology,* and the *Ophthalmic Year Book and Literature.* It is edited by a staff consisting of Drs. Adolf Alt, M. Uribe-Troncoso, Meyer Wiener, Casey A. Wood, Harry V. Würdemann, Edward Jackson and Clarence Loeb, and a large number of collaborators from various parts of the world. The first issue is excellently printed, and is divided into sections on original papers, abstracts, society proceedings, editorials, book notices, news items, an index of ophthalmic literature, and a digest of literature. It is stated editorially that the advertising pages of the journal will conform to the requirements of the Council on Pharmacy and Chemistry of the American Medical Association so far as drugs are concerned, and in other matters will be as carefully controlled as are the editorial pages of the new publication. This first number is excellent in every respect; if the same high standard is maintained in future issues, the journal will be a credit not only to those directly responsible for it, but also to American ophthalmology and to American ophthalmologists.

THE BLUE SLIP

We are again trying to save the expense of sending out bills for the annual dues and subscription by inserting a slip in this issue of THE JOURNAL. A good percentage have already responded to our former requests for remittance without waiting for a personal statement, and these will, of course, disregard the slip.

Defining Disease.—In truth, both disease and health are incapable of precise definition because they are not scientific terms. They are descriptive, popular and subjective. "Disease" is "discomfort." Whatever causes bodily uneasiness, or whatever by experience will sooner or later cause it, whatever interferes with our bodily functions, whatever tends to death, is disease.—Fagge and Pye-Smith, Textbook of Principles and Practice of Medicine.

Medical Mobilization and the War

Strength of the Medical Corps and Medical Reserve Corps of the Army

On February 1 the Medical Corps had a total strength of 773 officers, 1 major-general, 66 colonels, 111 lieutenant-colonels, 215 majors, 2 captains and 378 lieutenants.

There have been recommended for appointment in the Medical Reserve Corps 21,300, the total number in the corps on that date being 16,637: 919 majors, 3,595 captains and 12,123 lieutenants. There were on active duty 13,097 officers of the Medical Reserve Corps, including 808 majors, 2,968 captains and 9,321 lieutenants.

The Medical Corps of the National Guard in the federal service totaled 1,178, including 7 lieutenant-colonels, 250 majors, 147 captains and 774 lieutenants.

The Medical Corps of the National Army includes 4 brigadier-generals, 3 colonels, 3 lieutenant-colonels and 2 majors.

There are in all 18,600 commissioned medical officers, of whom 15,060 are on active duty. This does not include the Dental Corps, the Dental Reserve Corps or the Dental Corps of the National Guard, which contain 211, 4,749 and 260 officers, respectively. In addition to these departments, the Veterinary Corps, the Veterinary Reserve Corps, the Veterinary Corps of the National Guard and the National Army contain 25, 1,338, 57 and 283 officers, respectively; the Sanitary Corps, 722 officers, and the ambulance service, 135 officers.

Preparation of Sailors for Naval Surgeons' Aids

The University of Minnesota Medical Department is offering an opportunity to sailors attached to the Minneapolis Training Detachment, who are to go to sea rated as pharmacists' mates, to secure special medical instruction in preparation for their future work. In the first class there were 100 sailors. The first month was occupied with drill in the rudimentary points of medicine. The sailors were then divided into sections of five members each for individual instruction. In the selection of men for this work special consideration is given to those who have had high school or college education. Lectures and practical training are given in physiology, materia medica and therapeutics, physiologic chemistry and laboratory diagnosis, minor surgery and first aid, anatomy, pathology and pharmacology. Illustrative of the way the lecture and the practical work are combined, a lecture on mercury will be given in the course on pharmacology and will be followed by a visit to the hospital in which the surgeons' aids learn how to inject mercuric salicylate and how to administer salvarsan. In the same way practical lessons in nursing are given, including the care of the beds, bed linen and bed appurtenances, baths, administration of drugs, preparation and application of compresses, poultices, etc., lavage, gavage, irrigation of the eye, ear, nose and throat, enemas and all the other minor procedures which these assistants will be called on to undertake in their work. A squad of these trained hospital apprentices was recently called to active service aboard ship and sent to the naval hospital ships *Comfort* and *Mercy*. Very complimentary reports of their attainments have been returned to the training school.

Navy's Call for Binoculars, Spy Glasses and Telescopes, "The Eyes of the Navy"

Mr. Franklin D. Roosevelt, assistant secretary of the Navy, announces that the Navy is still in urgent need of binoculars, spy glasses and telescopes. The use of the submarine has so changed naval warfare that more "eyes" are needed on every ship, in order that a constant and efficient lookout may be maintained. Sextants and chronometers are also urgently required.

Heretofore, the United States has been obliged to rely almost entirely on foreign countries for its supply of such articles. These channels of supply are now closed, and as no stock is on hand in this country to meet the present emergency, it has become necessary to appeal to the patriotism of private owners to furnish "eyes for the Navy."

Several weeks ago, an appeal was made through the daily press, resulting in the receipt of over 3,000 glasses of various kinds, the great majority of which have proved satisfactory for naval use. *This number, however, is wholly insufficient, and the Navy needs many thousands more.*

He, therefore, asks that subscribers give special attention to this call:

All articles should be securely tagged, giving the name and address of the donor, and forwarded by mail or express to the Honorable Franklin D. Roosevelt, Assistant Secretary of the Navy, care of Naval Observatory, Washington, D. C., so that they may be acknowledged by him.

Articles not suitable for naval use will be returned to the sender. Those accepted will be keyed, so that the name and address of the donor will be permanently recorded at the Navy Department, and every effort will be made to return them, with added historical interest, at the termination of the war. It is, of course, impossible to guarantee them against damage or loss.

As the government cannot, under the law, accept services or material without making some payment therefor, one dollar will be paid for each article accepted, which sum will constitute the rental price, or in the event of loss, the purchase price, of such article.

Toward the end of January, it is proposed to distribute posters throughout the country making an appeal to fill this want of the Navy.

NEWS OF THE CANTONMENTS

Thirty-First Division, Camp Wheeler, Macon, Ga.

FEB. 1, 1918.

TREATMENT OF CARRIERS

Interesting experiments are now being made by treating carriers with chlorin gas in the gas house. The experiments were begun with meningitis carriers only. At present the chlorin has proved more effective than dichloramin-T. It seems reasonable that a gas which penetrates all the nasal passages, the larynx, trachea and bronchi should be more efficacious than a spray or swab, which can reach only a limited portion of the passages. Cultures are taken after two, three and more treatments.

It is now intended to treat also all pneumonia contacts with the gas in the hope of aiding in ridding the camp of its most dangerous disease. Pneumonia will be handled in much the same way as meningitis.

A few days' severe weather is followed by an increase in pneumonia; and fine weather by a decrease, or no cases at all. The Florida men still suffer most, having nearly half of all the cases in the camp. The cases occurring now are independent of measles, as a rule, a few cases following measles, but several weeks afterward.

The chlorin gas has an effect on the mucous membrane of the respiratory tract somewhat like the effect of mild silver nitrate solution on the conjunctiva. There is at first an irritation and an increase in the number of *Meningococcus catarrhalis*, followed by a decrease in this germ, and an improvement in the ordinary cough or cold.

DRAINING SWAMPS

The work of draining the swamps and nearby streams about Camp Wheeler is going on steadily under the supervision of Sanitary Inspector Major R. C. Turck. It is desired that all this work be completed before the advent of the mosquito, which, according to the statements of the inhabitants, takes place in May.

MUMPS

A large number of patients convalescing from mumps are now being treated in the regimental infirmaries. Mumps patients cannot be sent to duty with safety within two weeks, and not in that length of time in the artillery or mounted organizations.

PERSONAL

Lieutenant Valentine, chief dental surgeon of the division, has been promoted to the rank of major in the Dental Corps, and took advantage of this fact, by getting married. The bride was Miss Belle Ross, daughter of Dr. Ross of Macon. ——Some changes in duties of medical officers have taken place recently. Major Stickney has been transferred from the base hospital to the division, and assigned to the One Hundred and Sixth Engineers Regiment. Major Livingstone has been relieved from the engineers regiment and assigned to duty at division headquarters. Captain Padgett has been assigned to the One Hundred and Twenty-Third Infantry and Lieutenant McKeever to the sanitary train.—— Major Keenan visited the Twenty-Eighth Division at Augusta during the week, especially observing the sanitary train. Major Holton accompanied the detachment sent to Washington, D. C.——Captain Tucker of the Sanitary Corps has

investigated the camp water supplies. He pronounced the main supply (from Macon) to be quite satisfactory, and recommended some slight improvements in the plant of the auxiliary supply. No trouble has been caused from the water supply, except the inconvenience of temporary shutoffs when the wooden pipes gave away.——Lieutenant Beasley, who has just returned from overseas service, gave two most interesting and instructive lectures on overseas service with the American and British armies. The lectures were welcome, officers who can talk of field service from actual experience being extremely rare. It has been impossible to secure any such lecturers from the War Department thus far.

BASE HOSPITAL NOTES

A laboratory for the routine examination of urine, sputum and feces is being installed in each ward, the necessary microscopes having just been received. This will not only be a great convenience to the ward surgeons, but will lift a heavy load of routine work from the general laboratory, which will thereby be enabled to devote much more time to the special work for which it was primarily established.

The eye, ear, nose and throat staff is happy in the realization of its hopes of being installed in its new building by the end of the coming week, thus greatly facilitating the work.

It is exceedingly interesting as well as instructive to watch the setting up and reconstruction exercises being given regularly to the convalescent meningitis patients.

The General Disability Board is visiting each regimental infirmary for the purpose of eliminating all physically or mentally unfit men from the service. This plan seems to work better than having the board meet at a central point, as heretofore.

NOTES OF ONE HUNDRED AND SIXTH SANITARY TRAIN

Lieutenant DeLaney of Ambulance Company No. 121 has been ordered to the inactive list for the period of six months.—— Lieutenant Levett reported for duty this week, and will be assigned to the vacancy created by Lieutenant DeLaney's release.——Lieut. J. Todd Banks, adjutant of the field hospital section, is still at the base hospital, although progressing satisfactorily toward recovery.——Major Cornelius F. Holton, commanding Field Hospital Company No. 123, departed for Washington, Wednesday afternoon, as medical officer accompanying troops detached for duty at that point.——Major George F. Keenan accompanied the detachment of troops transferred to the motor-mechanic regiment at Camp Hancock, Augusta, Ga. An opportunity was provided to study the development of the sanitary train of that division.

Thirty-Third Division, Camp Logan, Houston, Texas

Jan. 28, 1918.

Although we have suffered little from cold as compared with those cantonments in the Northern States, we have had for three weeks perhaps the coldest weather known in Texas for many years. The thermometer fell to 11 F., with the result of killing all the young vegetation. It evidently is not a common thing here, for the circumstantial evidence that water pipes and automobile radiators were frozen up on every hand is conclusive as to the unusual character of the season.

DISEASE INCIDENCE

Although we are averaging about 900 patients in the base hospital, we have comparatively little severe illness. In several cases of infection by the Type I pneumococcus, the serum has acted promptly. We shall report later as to the studies of pneumonia by the Rockefeller Institute methods.

PREVENTION OF CONTAGION

By stretching wires across the contagious disease wards and pinning up sheets between the adjacent beds, we have in effect established the cubicle method of isolation. We have had so few cases of direct contagion, so far as we know, that we notice no direct effect; but it certainly appears to be a proper precaution to take.

PERSONAL

Lieut. Tom R. Knowles, our brain surgeon, has gone to Philadelphia for a course of instruction in his specialty, and Lieut. Warren C. Calvin to St. Louis for a course in dermatology. Capt. George McBride is ordered to New Orleans for a study of war-wound surgery.

CARDIOVASCULAR EXAMINATION

Lieut. James H. Brown, our cardiovascular examiner, presents the following summary of his experience in the work here. His conclusions follow closely those mentioned in our last article as embodying the experience of the Surgeon's Certificate of Disability Board:

The soldiers suffering from defects of the heart and vessels have appeared for examination in a certain order which has varied but little. First to show signs of deficiency were the ones with aortic insufficiency, which condition, as we know, is one that is apt to produce symptoms on the first unusual exertion. Second were the cases of mitral insufficiency with cardiac hypertrophy which called attention to the afflicted ones, principally by the forceful action of the heart during exercises. Third were the cases with long standing goiter, which condition had produced little trouble during the ordinary work of an individual; but when extra exertion, both in degree and nature is undertaken, symptoms of respiratory embarrassment and rapid fatigue are produced. Fourth are cases of mitral stenosis, which condition had existed prior to enlistment in a degree which, unless carefully examined for, could be very easily overlooked; but after strenuous work in training the condition has rapidly manifested itself by unmistakable symptoms. These cases have been found in numbers out of all proportion to their existence with other heart diseases. There would be fewer of these cases if applicants for the Army should be examined immediately after vigorous exercise. In the beginning of mitral stenosis, symptoms may be lacking and examination may reveal but little. For this reason also applicants for the Army have been accepted with stenosis in a stage in which it could be readily overlooked. Next were cases of incipient tuberculosis which were referred to us for reason of general lassitude, poor endurance, dyspnea and tachycardia on continued exertion. Examination revealed only a simple tachycardia caused by the beginning tuberculosis. The symptoms of this trouble after continued exertion became more manifest. The cases to be found only after several weeks of training were in those suffering from a set of symptoms very much like those of a rather acute hyperthyroidism, namely, choking at night, fainting spells and giddiness, dyspnea and marked tachycardia on continued exertion, and endurance considerably below the normal. There is in nearly every case a noticeable thyroid enlargement of a soft, spongy nature; also other signs of hyperthyroidism, as fine tremor of the extended fingers, occasional eye symptoms, sluggish peripheral circulation, profuse sweating, and either tachycardia or a marked hyperirritability of the heart. The past history of these cases has revealed a marked neurosis and hypersensitive nervous system which, with the burden of Army life, has upset the cardiac equilibrium.

EAR, NOSE AND THROAT DEPARTMENT

The personnel of the otolaryngologic staff includes Major T. E. Oertel, M. R. C.; Capt. E. F. Howard, M. R. C.; Lieut. J. F. Strauss, M. R. C., Lieut. George Griot, M. R. C. A clinic is held daily for both hospital and outside patients. Many pass through the clinic en route to the Surgeon's Certificate of Disability Board by reason of severe chronic conditions of the ear. Nearly all patients with suppurative middle ear give a history of this condition's having existed since childhood, following an attack of the exanthems. Many of them occur in men from the lower walks of life whose habits are none too cleanly even under military rule, and who come from the field with pus pouring from one or both ears. On being questioned, they usually say the condition was the same prior to and at the time of enlistment. Examination reveals an open middle ear. Such men must be eliminated from the service so that they may not become a burden at a future time.

The most amazing fact relative to these men is that they are in the service at all. That any examiner should pass an applicant who has a suppurative otitis media betokens either an inexcusable defect in method of examination or an asinine stupidity that is appalling. But whatever has been the reason for the admission of such defective men, their enlistment has been the cause of much confusion, expense and hardship on those most concerned and needless wastage of the public funds. Means should be taken to prevent a like occurrence in the examination of future drafts. We have observed a notable number of infections of the throat by Vincent's organism. The site of infection is usually the tonsil of one or both sides, with often an extension to the pillars and rarely to the pharynx. The type of infection is quite mild; many of the patients have little ulceration and only slight rise of temperature, with no enlargement of cervical glands. They promptly recover after application of silver nitrate, 15 per cent., and are able to return to duty within two or three days. No severe infections by this organism have been seen, though several have been complicated by the Klebs-Löffler bacillus. Hypertrophic tonsils and a mild form of acute follicular

tonsillitis are frequent. There are remarkably few cases of sinusitis, either chronic or acute, and we have been able to control most of the cases of mastoid inflammation without the necessity of operation other than a free paracentesis of the tympanum. It is our rule to do this under general anesthesia and a strict aseptic technic.

Eighty-Fourth Division, Camp Zachary Taylor, Louisville, Ky.

FEB. 4, 1918.

NEW SANITARY RULES

Rules directing the sanitary measures that are to be taken immediately on the appearance of any communicable disease in any organization have been published and delivered to all unit commanders. They include airing and sunning of bedding and clothing, scrubbing with lye solution, disinfection of barracks, and thorough daily ventilation.

This will be done under direct supervision of the senior medical officers of the organization. Much attention is given to the ventilation of barracks at night. During the cold weather some of the soldiers have shown a disposition to keep the windows closed. Sanitary inspectors are making rounds of barracks after taps to see that all sleeping quarters are properly ventilated. In performing this mission the sanitary inspectors frequently remain out until daybreak.

The division staff is tightening up on the officers of the division. One order recently issued requires all officers to salute and return the salute when in or out of camp, and those officers who do not salute properly must take lessons until they learn how. Another order is that every one much get up at reveille every morning, at 5:45 o'clock.

COURT MARTIAL

A general court martial has sentenced a private in the Three Hundred and Thirty-Sixth Infantry to three months in the guard house, forfeiture of his pay, and dishonorable discharge for putting some irritating substance in his eyes to evade military service.

MEDICAL OFFICERS EXAMINED

Many medical officers at Camp Zachary Taylor were examined following the close of schools which have been conducted for some weeks past. The examinations were under the direction of Major Luther Poust, division sanitary inspector, and there was keen competition between various medical units such as the field hospitals and ambulance companies. It is believed the results of these examinations will be a large determining factor in the promotions which are likely to be made shortly.

MUMPS

Mumps patients on the 1st numbered 100. They are isolated in building A 11, in the area of the One Hundred and Fifty-Ninth Depot Brigade, which has been fitted out about a week. This building is inadequate to house them all.

OFFICIAL SANCTION OF CAMP SITE

That the site of Camp Zachary Taylor was selected after a more rigorous investigation than any other Army camp site in the country and approved by the best sanitary men and Army officers was borne out in the recent testimony of Secretary of War Baker before the Senate Committee during a quizzing that brought in all phases of the making of the National Army.

PERSONALS

First Lieut. Edgar A. Doll, S. C., base hospital, has been ordered to proceed to Fort Oglethorpe, reporting to the medical officers' training camp for instruction.——First Lieut. Owen P. McPherson has been assigned to the base hospital.——Contract Surgeons Edward C. Davis and E. R. Vanderslice have been relieved from their duties at Camp Zachary Taylor proceeding to their respective homes.——Capt. Edwin T. Bruce, M. R. C., has been honorably discharged from the Army and has returned to Louisville from Chicago, where he had been assigned.

Eighty-Ninth Division, Camp Funston, Fort Riley, Kan.

JAN. 28, 1918.

DISEASE INCIDENCE

The spell of good weather was broken this week by a sudden drop in temperature and a light fall of snow. Disease conditions in this camp are now on a normal plane with the exception of mumps, which has reached its highest curve, and is now on the decline. The highest number of mumps admissions to date in any one day was eighty-three. The number of admissions far exceeds all cases in any of the other diseases, including measles. Measles, meningitis and pneumonia have reached the stage at which only an occasional case is "picked up" during the week. The month of January is nearly finished, and only seven positive cases of meningitis were reported for the month. This in itself, is a source of great relief, and no one here will ever forget the vigorous campaign carried on to combat three of the most dangerous disease epidemics to any army command. The path of an army surgeon is far from being rosy, from the chief camp surgeon down to the last assistant unit surgeon, and when we look back on the battle waged against the meningitis and measles epidemics, when surgeons worked all day and all night, we doubt if ever a city surgeon or weary country practitioner ever led a more strenuous life.

ISOLATION CAMP

The division surgeon announces that the second isolation camp, situated on the Republican flats, will be completed this week. Isolation Camp No. 2 will be used for the quarantine of new draft men, and has a capacity of 2,500 beds. Having passed through the quarantine camp, the soldier will be assigned to an organization. The purpose of such a camp is readily seen, and will greatly reduce the number of noneffectives. The medical personnel of this camp will be furnished by Field Hospital No. 354.

PERSONAL

The Eighty-Ninth Division has been host to a number of inspectors from Washington, sent out from the inspector general's office. As regards the Medical Department, we are unable to report at this time. Lieut. George C. Miller, M. R. C., Three Hundred and Fifty-Fourth Infantry, has been appointed a captain. Capt. Albert G. Bower, M. R. C., division training officer, is in Chicago on a ten day leave of absence. Captain Bower was a former instructor at Rush Medical College.

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES

Extracts from Telegraphic Reports Received in the Office of the Surgeon-General for the Week Ending Jan. 25, 1918

1. Annual admission rate per 1,000 (disease only):
   - All Troops 1,750.7
   - National Guard Camps 1,527.9
   - National Army Camps 2,059.2
   - Regulars—Divisions and Departments 1,556.3
2. Noneffective rate per 1,000 on day of report:
   - All Troops 49.6
   - National Guard Camps 50.4
   - National Army Camps 53.9
   - Regulars—Divisions and Departments 40
3. Camps and Departments showing admission rates for disease higher than average—

   National Guard: Camps Wheeler, Bowie, Sevier, Beauregard, Doniphan, Kearny and Shelby.

   National Army: Camps Travis, Pike, Lee, Funston, Jackson and Dix.

   Regulars—Divisions and Departments:
   - Southeastern Department 1,653.5
   - Central Department 1,582.8
4. Camps and Departments showing noneffective rates higher than average:

   National Guard: Camps Wheeler, Beauregard, Bowie, Shelby, Kearny and Doniphan.

   National Army: Camps Travis, Dodge, Funston, Pike, Lee, Jackson and Zachary Taylor.

   Regulars:
   - Southeastern Department 57.2
   - Southern Department 45.1
   - Central Department 43.7
5. Venereal Diseases:

   Annual admission rate per 1,000—
   - National Guard Camps 65.8
   - National Army Camps 70.4
   - Regulars—Divisions and Departments 69.4

   Camps and Departments having rate above average: National Guard: Camps Hancock and McClellan.

   National Army: Camps Pike, Jackson, Dix, Lee and Zachary Taylor.

   Departments:
   - Southern 119.7
   - Central 97.6
   - Eastern 79.5
6. Number of cases of pneumonia 799
   - Highest number in any one camp (Travis) 79

   Number of cases of meningitis 117
   - Highest number in any one camp (Jackson) 23

NEW CASES OF SPECIAL DISEASES REPORTED DURING THE WEEK ENDING JAN 25, 1918

Camps	Pneumonia	Dysentery	Malaria	Venereal	Paratyphoid	Typhoid	Measles	Meningitis	Scarlet fever	Deaths	Noneffective per 1,000
Wadsworth	11	...	...	23	..	..	1	2	..	6	28.8
Hancock	10	...	...	112	..	..	10	2	..	1	30.7
McClellan	5	...	...	30	..	..	15	5	7	3	38.7
Sevier	27	...	...	26	1	..	6	1	2	12	50.4
Wheeler	31	2	1	21	..	..	....	4	..	6	89.4
Logan	11	...	...	84	..	..	57	..	..	2	35.8
Cody	25	...	...	13	..	..	4	..	..	0	46.2
Doniphan	38	...	2	31	..	..	26	4	2	15	52.7
Bowie	24	...	...	23	..	..	1	..	..	2	72.7
Sheridan	15	...	...	14	..	..	32	..	..	4	33.8
Shelby	12	...	1	19	..	..	4	..	2	1	59.8
Beauregard	26	...	6	22	..	..	....	9	..	15	81.2
Kearny	16	...	...	8	..	..	26	1	13	4	56.6
Devens	9	...	...	14	..	..	82	..	1	3	36.4
Upton	15	...	...	34	..	..	3	..	2	3	31.5
Dix	6	...	1	44	..	1	60	..	..	1	49.5
Meade	21	...	...	8	..	..	29	5	3	2	33.3
Lee	47	1	...	58	..	..	116	2	..	11	68.2
Jackson	9	...	...	56	..	..	19	23	..	8	66.6
Gordon	28	...	...	17	..	..	73	6	..	16	34.5
Sherman	2	1	...	22	..	..	102	1	7	4	43.6
Taylor	24	...	...	43	..	..	41	2	2	5	65.8
Custer	7	...	...	15	..	..	35	7	4	2	44.9
Grant	9	...	...	11	..	..	74	1	10	2	35.7
Pike	40	...	1	198	..	..	28	2	23	20	71.2
Dodge	8	...	...	15	..	..	57	..	10	6	76.8
Funston	5	...	...	9	..	..	22	5	1	5	74.6
Travis	79	...	1	30	..	..	3	5	1	13	101.1
Lewis	5	...	...	18	..	..	11	1	33	2	49.7

In the report for week ending Jan 11, 1918, Camp Lewis, measles 78 should be erased, as these were German measles.

ANNUAL RATE PER THOUSAND FOR SPECIAL DISEASES

	Regulars, U. S. Army, in U. S. only, 1916*	Regulars in U. S., Week Ending Jan. 25, 1918	National Guard, All Camps, Week Ending Jan. 25, 1918	National Army, All Camps, Week Ending Jan. 25, 1918
Pneumonia	2.59	34.8	38.7	37.6
Dysentery	3.97	0.4	0.3	0.3
Malaria	12.52	0.8	1.5	0.3
Venereal	91.23	69.4	65.8	70.4
Paratyphoid	0.31	0.0	0.1	0.0
Typhoid	0.21	0.1	0.0	0.1
Measles	20.28	142.1	28.1	89.9
Meningitis	0.29	4.1	4.3	7.4
Scarlet fever	0.59	11.8	4.0	11.5

* Enlisted men only, both white and colored.

CORRECTION

Under "Orders to Officers of the Medical Reserve Corps":

Issue of January 19: *To Fort Riley,* for instruction, Lieut. DAVID M. NATANSON, New York City, instead of Lieut. DAVID M. HATANSON.

ORDERS TO OFFICERS OF THE MEDICAL CORPS

To Fort Oglethorpe, Ga., on business for the Medical Dept., and on completion *to his proper station,* Brig. General HENRY P. BIRMINGHAM.

To Newport News, Hampton, Norfolk, Va., to inspect conditions and *to Camp Lee,* Petersburg, Va., to make sanitary inspection and on completion *to his proper station,* Col. PERCY M. ASHBURN.

To Cincinnati, Ohio, to inspect and report on the suitability of property offered to the Medical Dept., for hospital purposes, and on completion *to his proper station,* Col. CHARLES WILCOX.

To Camp Greene, Charlotte, N. C., as camp surgeon, in addition to his other duties, Lieut.-Col. WILLIAM R. EASTMAN.

To Camp Greene, Charlotte, N. C., *Camp Jackson,* Columbia, S. C., *Fort Oglethorpe, Ga., Camp Logan,* Houston, Texas, *Camp Travis,* Fort Sam Houston, Texas, *Fort Riley, Kansas, Camp Dodge,* Des Moines, Iowa, to inspect the surgical equipment and on completion *to his proper station,* Lieut.-Col. WILLIAM H. MONCRIEF.

To Camp Joseph E. Johnston, Jacksonville, Fla., to make a sanitary inspection, and on completion *to his proper station,* Lieut.-Col. FRANK W. WEED.

To Hoboken, N. J., for duty, Lieut.-Col. CRAIG R. SNYDER.

To Hoboken, N. J., Major HARRY N. KERNS.

To Camp McClellan, Anniston, Ala., for temporary duty, Major GUSTAVUS I. HOGUE.

To Camp Greene, Charlotte, N. C., as sanitary inspector, Major ERNEST A. GATES.

To Asheville, N. C., for duty in connection with the Medical Dept., and on completion *to his proper station,* Major EARL H. BRUNS.

To Camp A. A. Humphreys, Accotink, Va., for duty as camp surgeon, Major CHARLES E. DOERR.

To Camp Greene, Charlotte, N. C., for duty, Lieut. JAMES A. SIMPSON.

To Camp McClellan, Anniston, Ala., for duty, Lieut. WILLIAM PATTERSON.

To Camp Greene, Charlotte, N. C., for duty, Lieut. JOSEPH J. HILTON.

To Fort Sheridan, Ill., for temporary duty as orthopedic surgeon and as consultant in such orthopedic cases as may be referred to him by the proper authorities, Lieut. OTTO R. BROWN.

To Camp Greene, Charlotte, N. C., for duty, Lieut. PRESCOTT S. TUCKER.

To Camp Greene, Charlotte, N. C., for duty, Lieut. JAMES A. BETHEA.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to their proper stations,* Lieuts. CHARLES F. AUSTIN, JAMES H. DAMERON, WILLIAM E. LUCEY, JOHN E. MRAZ, EDWARD WHITE.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station,* Lieut. PAUL K. SAUER.

To Camp Hancock, Augusta, Ga., as orthopedic surgeon, and as consultant in such orthopedic cases as may be referred to him by proper authority, Lieut. CORNELIUS A. DENEHY.

To Camp McClellan, Anniston, Ala., as orthopedic surgeon, and as consultant in such orthopedic cases as may be referred to him by proper authority, Lieut. HENRY C. DOOLING.

To his home and honorably discharged from the Medical Corps, National Guard, on account of physical disability which existed prior to his entrance into the service, Capt. ELMER N. ECKARD, Lieut. ALBERT B. HERRICK, Jr.

ORDERS TO OFFICERS OF THE MEDICAL RESERVE CORPS

Alabama

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Capt. ROBERT D. BROWN, Mobile.

To Camp Greene, Charlotte, N. C., for duty, Lieut. HOMER W. ALLGOOD, Blocton.

To Fort Oglethorpe, for instruction, from Richmond, Lieut. HARRY M. SIMPSON, Birmingham.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp Sheridan, Lieut. HARTSFORD L. ISON, Gadsden.

To Washington, D. C., Camp American University, for duty, from Fort Oglethorpe, Lieut. JOHN C. GODBOLD, Whatley.

Arizona

To New York City, Cornell Medical College, as assistant instructor in roentgenology, from New York City, Lieut. RALPH E. HERNADEEN Bisbee.

Arkansas

To Cleveland, Ohio, for instruction, and on completion *to his proper station,* from Camp Shelby, Capt. JOHN J. JOHNSON, West Fork.

To Fort Riley, for instruction, Lieut. R. NEWMAN BROWN, McGehee.

To New Orleans, La., for instruction, and on completion *to his proper station,* from Camp Bowie, Lieut. WILLIAM HIBBETTS, Texarkana.

To New York City, Bellevue Hospital, for instruction, and on completion *to his proper station,* from Camp Bowie, Lieut. WILLIAM HIBBETTS, Texarkana.

To South San Antonio, Texas, Kelly Field, Aviation Sec., S. C., for duty, Lieut. WILLIAM H. MORELAND, Hickory Ridge.

California

To Berkeley, Calif., University of California, for duty, Lieut. ALBERT S. GOUGH, Los Angeles.

To Boston, Mass., for instruction, from Allentown, Pa., Capt. ALBERT M. MEADS, Berkeley.

To Camp Kearny, Linda Vista, Calif., as Divisional Psychiatrist, from Camp Kearny, Capt. CHARLES E. SISSON, Norwalk. For duty, Capt. WILLIAM R. SEVERSON, Los Angeles. As orthopedic surgeon in the camp, Lieut. GUY L. KAY, Wilmington.

To Camp Lewis, American Lake, Wash., as orthopedic surgeon, Capt. MAYNARD C. HARDING, San Diego; Lieuts. HARRY J. PRUETT, Fresno; JOHN P. DEGNAN, HAROLD K. FABER, San Francisco.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station,* from Camp Lewis, Lieut. RAYMOND A. BABCOCK, Willits.

To Dallas, Texas, State Fair Grounds, for duty, Lieut. RICHARD C. DIENST, Santa Rosa.

To Fort Riley for duty, from Fort Riley, Major BERTRAM F. ALDEN, San Francisco. For instruction, Capt. RALPH HAGAN, Los Angeles.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp Kearny, Lieuts. PERCY E. SWIFT, Los Angeles; WILLIAM D. ROLPH, Riverside.

To New York City, Bellevue Hospital, for instruction, and on completion *to Fort Jay, New York,* for temporary duty, Capt. HARRY C. LOOS, San Diego.

To San Diego, Calif., Signal Corps, Aviation School, Rockwell Field, for duty, Lieuts. GEORGE M. BUMGARNER, Bakersfield; FRANK M. CONNER, Pasadena.

To San Francisco, Calif., for duty, Lieut. FRANK R. HART, Pacific Grove.

To South San Antonio, Texas, Kelly Field, for temporary duty, and on completion *to his proper station,* from Fort Sam Houston, Capt. JAMES CUMMINGS, Berkeley.

To Washington, D. C., for duty in the Surgeon-General's Office, Capt. WILBUR A. SAWYER, Sacramento.

To Western Dept., for assignment to duty, Capt. FRANK M. TROUT, San Francisco.

To their homes and honorably discharged, Major HERBERT C. MOFFITT, San Francisco; Capt. JAMES M. FISHER, Gilroy; on account of physical disability which existed prior to entrance into the service, Lieut. CLIFFORD A. SMALLEY, Los Angeles.

Colorado

To Camp Doniphan, Fort Sill, Okla., for duty, from New York City, Lieut. ARTHUR W. STAHL, Denver.

To Cleveland, Ohio, for instruction, and on completion *to Camp Sherman,* for duty, from Fort Oglethorpe, Lieut. GEORGE L. SHARP, Colorado Springs.

To Dallas, Texas, State Fair Grounds, for duty, Lieut. MORROW D. BROWN, Craig.

To New York City, for instruction, and on completion *to Camp Dix* for duty, from Camp Merritt, Lieut. PHILLIPS M. CHASE, Denver.

To his home and honorably discharged, Lieut. ARTHUR J. HOLNQUIST, Denver.

Connecticut

To Augusta, Ga., Department Laboratory, from New York City, Lieut. JACQUES H. GREEN, Waterbury.

To Camp Meade, Annapolis Junction, Md., Aviation Section, S. C., as junior member of Physical Examining Unit, Medical Member of Examining Board, and recruiting officer, Capt. WILLIAM T. OWENS, Hartford.

To Curtis Bay, Md., for duty, from Fort Ethan Allen, Lieut. MATTHEW H. GRISWOLD, Kensington.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion *to Fort Hamilton, N. Y.*, for the same duty, and on completion to Fort Hancock, N. J., for the same duty, from Camp Devens, Lieut. LEONARD J. LOEWE, Hegganum.

To his home and to the inactive list, Lieut. LAWRENCE H. FROST, Plainville.

Delaware

To Fort Monroe, Va., for duty, from Fort Oglethorpe, Lieut. JOHN B. RUTHERFORD, Wilmington.

District of Columbia

To Rockefeller Institute, N. Y., for instruction, and on completion to Camp Wheeler for duty, from Fort Oglethorpe, Lieut. ALBERT E. PAGAN, Washington.

To Walter Reed General Hospital, Takoma Park, D. C., for temporary duty, Lieut. SAMUEL A. ALEXANDER, Washington.

To his home and honorably discharged, Lieut. SILAS S. THOMPSON, Washington.

Florida

To Fort Oglethorpe, for instruction, Lieut. ALBERT H. WILKINSON, Jacksonville.

Georgia

To Atlanta, Ga., for duty, Lieut. JAMES M. J. LUKE, Fitzgerald.

To Boston, Mass., General Hospital, for instruction, and on completion *to his proper station,* from Fort McPherson, Capt. JOHN F. DENTON, Atlanta.

To Camp American University, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. CARL W. LUPE, Vienna.

To Camp Lee, Petersburg, Va., for duty, from Fort Riley, Lieut. CHAPMAN Q. DYKES, Cochran.

To Fort Oglethorpe, for instruction, from Camp Gordon, Lieut. STEPHEN I. BROWN, Atlanta.

To Newport News, Va., for duty, from Fort Oglethorpe, Lieuts. WILLIAM A. GIBSON, Jr., Agricola; JAMES J. CRUMBLEY, Sylvester.

To New York City, Bellevue Hospital, for instruction, and upon completion *to Camp Jackson* for duty, from Fort Oglethorpe, Lieut. JAMES A. McALLISTER, Atlanta; upon completion *to his proper station,* from Fort Oglethorpe, Lieut. HAROLD R. LIPSCOMB, East Point.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Fort Thomas, Lieut. GEORGE L. FUQUAY, Savannah.

To Rockefeller Institute, N. Y., for instruction, and on completion *to his proper station,* from Fort Oglethorpe, Lieut. EARL T. NEWSON, Camilla.

Idaho

To Camp Sherman, Chillicothe, Ohio, for temporary duty from Fort D. A. Russell, Capt. EDWARD E. MAXEY, Boise.

Illinois

To Allentown, Pa., to assist in the nutritional survey of the camp from Army Medical School, Lieut. THOMAS A. WAYLAND, Dallas City.

To Boston, Mass., General Hospital, for instruction, and on completion *to his proper station,* from Fort McPherson, Capt. WILLIAM A. N. DORLAND, Chicago; upon completion *to Camp Devens,* from Fort Oglethorpe, Lieut. LOUIS H. HAYES, Alton; *Boston City Hospital,* and on completion *to his proper station,* from Camp Upton, Lieut. CLYDE F. BACCUS, Woodstock.

To Camp Bowie, Fort Worth, Texas, for duty, from Eagle Pass, Lieut. THOMAS C. PAULSEN, Chicago.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. FRED H. BELL, Sycamore.

To Camp Doniphan, Fort Sill, Okla., as divisional psychiatrist, from Camp Doniphan, Capt. HARRY R. HOFFMAN, Chicago.

To Camp Greene, Charlotte, N. C.; *Camp Jackson,* Columbia, S. C.; *Fort Oglethorpe, Ga.; Camp Pike,* Little Rock, Ark.; *Camp Doniphan,* Fort Sill, Okla.; *Fort Riley, Kan.; Camp Cody,* Deming, N. M.; *San Francisco, Calif.; Camp Kearny,* Linda Vista, Calif.; *Camp Lewis,* American Lake, Wash.; *Camp Grant,* Rockford, Ill.; *Camp Custer,* Battle Creek, Mich., to inspect the surgical equipment, and on completion *to his proper station,* Major ALLEN B. KANAVEL, Chicago.

To Camp Hancock, Augusta, Ga., as junior member of physical examining unit, medical member of examining board, and recruiting officer, from Camp Dix, Lieut. ALEXANDER A. DRILL, Chicago.

To Camp Logan, Houston, Texas, for duty, Lieut. OSWALD F. SCHIFFLI, Chicago.

To Camp MacArthur, Waco, Texas, for temporary duty, Lieut. MAX LAMPERT, Chicago.

To Camp Pike, Little Rock, Ark., and *Fort Logan H. Root, Ark.*, to inspect and report on conditions, and on completion *to his proper station,* Major JOHN A. HORNSBY, Chicago.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to Fort Oglethorpe,* for instruction, Capt. ROBERT S. GREGG. For instruction in orthopedic surgery, Capt. ALBERT B. McQUILLAN, East St. Louis; Lieut. ELMER M. THOMAS, Aurora; GEORGE W. STABEN, Springfield; from Camp Grant, Lieut. ALFORD E. BUDDE, *North Chicago Presbyterian Hospital,* for instruction, and on completion *to his proper station,* from Camp Lewis, Lieut. WILLIAM P. RICE, Chicago.

To Fort McPherson, Ga., for duty, from Camp Cody, Major BASIL C. M. HARVEY, Chicago.

To Fort Oglethorpe, for instruction, Lieuts. RUSSELL B. MAIN, Chicago; RELZA N. SHERMAN, Fairmont.

To Fort Riley, to make an examination of the command, from Fort Riley, Capt. WILLIAM W. EICHELBERGER, Rockford; Lieut. JAMES K. POLLOCK, Elgin. For instruction, Lieuts. FRANK LACKNER, Aurora; LUTHER L. TURNER, Chicago; JAMES T. BREAKAY, Mason; from Ann Arbor, Mich., Lieut. ISAAC J. FRISCH, Chicago.

To New Orleans, La., Charity Hospital, for instruction, and upon completion *to his proper station,* from Camp Bowie, Lieut. WILLIAM H. HOWARD, Chicago.

To New York City, for duty in connection with the Division of Physical Reconstruction, and on completion *to their proper station,* Majors HARRY E. MOCK, CASEY A. WOOD, Chicago. *Cornell Medical College* for instruction in military roentgenology, from Camp Devens, Capt. WINFIELD G. McDEED, Monticello. *Bellevue Hospital,* for instruction, and upon completion to *Camp Lee,* for duty, Lieut. WILLIAM J. SIEGLER, Chicago. *Neurological Institute* for intensive training, and on completion *to his proper station,* from Camp Grant, Lieut. OTTIS LIKE, Chicago. *Orthopedic Hospital,* for instruction, from Brooklyn, Lieut. MARCUS H. HOBART, Chicago.

To Philadelphia, Pa., for instruction, and on completion *to Camp Sherman,* for duty, Capt. JAMES F. PRESNELL, Chicago. *University Hospital* for instruction, and on completion *to Camp Meade,* Capt. ROY R. FERGUSON, Chicago.

To Pittsburgh, Pa., for instruction, and on completion *to Camp Hancock* for duty, from Camp Dodge, Lieut. WILLIAM H. BYFORD, Chicago; upon completion *to his proper station,* from Fort Riley, Lieut. FRANK W. MERRITT, Chicago.

To Rantoul, Ill., Aviation School, Chanute Field, for duty, Lieuts. ROSS D. WRIGHT, Chicago; JOSEPH T. WOODWARD, Elkhart; EDWIN K. ALLIS, New Douglas; JAY T. WOOD, Springfield.

To St. Louis, Mo., Washington University Medical School, for instruction, Lieut. FRED W. FIEDLER, Bachtown.

Honorably discharged on account of being physically disqualified for active service, Capt. WILLIAM T. WINTER, Chicago.

To their homes and honorably discharged, Capt. CHARLES K. BARCLAY, New Lenox; Capt. ARTHUR N. McCORD, Streator; on account of physical disability which existed prior to entrance into the service, Capt. WILLIAM S. BROWN, Elgin.

Indiana

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station,* from Fort Riley, Major GEORGE W. NEWELL, Peru. For instruction in orthopedic surgery, Lieut. THOMAS P. GOODWYN, South Bend.

To Fort Oglethorpe, for duty, from Fort Oglethorpe, Liept. IRVINGHAM H. WILLETT, Gary.

To Fort Riley, for instruction, Lieut. JOHN W. THOMSON, Garrett; from Fort Riley, Lieut. RAYMOND EVANS, Clinton.

To New York City, Bellevue Hospital, for instruction, and upon completion *to Camp Dix,* from Fort Oglethorpe, Lieut. JOHN W. BALLARD, Logansport. *Cornell Medical College* for instruction in military roentgenology, from Ft. Benjamin Harrison, Lieut. FREDERICK M. WHEELER, Wabash.

Honorably discharged, Capt. FRANCIS E. HYPES, Indianapolis.

Iowa

To Ann Arbor, Mich., Psychopathic Hospital, for intensive training, Lieut. LOVE E. PENNINGTON, Cherokee.

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Lieut. MILLARD F. SMITH, Little Rock.

To Chicago, Ill., for instruction in orthopedic surgery, Lieut. RAY R. KULP, Davenport.

To Cleveland, Ohio, for instruction, and on completion *to Camp Sherman* for duty, from Fort Riley, Capt. BENJAMIN G. DYER, Ames.

To Dallas, Texas, State Fair Grounds, Lieut. JAMES T. McBRIDE, Des Moines.

To Fort McPherson, Ga., for duty, from Camp MacArthur, Capt. BEN S. WALKER, Corydon.

To Fort Omaha, Neb., U. S. Army Balloon School, for duty, Lieuts. JOSEPH W. TYRRELL, Des Moines; GEORGE A. BEMIS, Garner.

To Fort Riley, for instruction, Lieut. WILLIAM F. CARVER, Fort Dodge.

To Fort Snelling, Minn., for duty, Lieut. ELMER A. BARE, Pleasantville.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp Bowie, Lieut. WILLIAM FRANK BROWN, Keokuk.

To Philadelphia, Pa., Univt Hospital, for instruction, and on completion to Camp Meade, Lieut. ROBERT G. HINRICHS, Palmer.

To their homes and honorably discharged, Lieut. EDWIN C. ROGERS, Wapello; on account of physical disability which existed prior to their entrance into the service, Lieuts. JOHN F. SCHWERTLEY, Earling; WILLIAM W. WEBER, Hartford; JOSEPH C. BARRAGY, Mason City.

Kansas

To Boston, Mass., General Hospital, for instruction in urology and dermatology, from Fort Oglethorpe, Capt. FRANKLIN T. JOHNSON, Jr., Elmdale.

To Camp Beauregard, Alexandria, La., for duty, from New York City, Lieut. RICHARD C. HENDERSON, Pittsburgh.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieuts. JOHN W. COMBS, Brownell; JAMES B. UNGLES, Langdon.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station,* from Fort Riley, Capt. EDGAR C. DUNCAN, Fredonia.

To Fort Riley, for instruction, Lieut. CLARENCE W. HALL, Hutchinson.

To Newport News, Va., for duty from New York City, Lieut. GEORGE E. KNAPPENBERGER, Mankato.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Camp Hancock, Lieut. HARRY W. KING, Kansas City.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Lieut. LEWIS G. ALLEN, Lenexa.

To their homes and honorably discharged on account of physical disability which existed prior to their entrance into the service, Lieuts. WILLIAM K. FAST, Atchison; CHARLES S. ADAMS, St. John.

Kentucky

To Camp MacArthur, Waco, Texas, Aviation Section Signal Corps, for duty, Capt. ROBERT L. GLASCOCK, Coneyville.

To Camp Taylor, Louisville, Ky., for temporary duty, Major SIDNEY J. MEYERS, Louisville.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Capt. FRANK T. FORD, Louisville.

To Cleveland, Ohio for instruction, and on completion *to his proper station,* from Camp Taylor, Lieut. CLAUDE WILSON, Greenville.

To Fort Oglethorpe for instruction, Capts. CLAYTON W. SHAW, Alexandria; SAMUEL R. HAROVER, Maysville; Lieut. WILLIAM B. GODDARD, Harrodsburg.

To Philadelphia, Pa., University Hospital, for instruction, and on completion *to Camp Lee,* Petersburg, Va., for temporary duty, from Fort Oglethorpe, Lieut. CLIFFORD N. HEISEL, Covington.

To Rockefeller Institute, N. Y., for instruction, and on completion to *Fort McPherson, Ga.,* for duty, from Fort Riley, Capt. JOHN L. FARMER, Allensville.

To Washington, D. C., Aviation Section, Signal Corps, for duty, from Camp Hancock, Capt. SAMUEL C. SMITH, Greenup.

To their homes and honorably discharged, JESSE B. SORY, Crayne; on account of physical disability which existed prior to entrance into the service, Capt. JAMES R. LEE, Columbus.

Louisiana

To Fort Oglethorpe for duty, from Camp Beauregard, Capt. ERASMUS FENNER, New Orleans; from Cornell Medical College, Lieuts. PAUL K. RAND, Alexandria; ELEAZOR R. BOWIE, New Orleans; from Williamsbridge, N. Y., Major JOHN T. HALSEY, New Orleans.

To Oklahoma City, Okla., for instruction in orthopedic surgery, Lieut FRANK CHETTA, New Orleans; from Camp Beauregard, Lieut. THOMAS B. CRACROFT, Kelly.

To San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. NEELY McC. PALMER, Leesville; KIRBY A. ROY, Mansura; WILLIAM W. PUGH, Napoleonville; JESSE R. WALTRIP, New Orleans; POPE W. ODEN, Shreveport.

Maine

To Camp Sevier, Greenville, S. C., for duty, from Camp Sevier, Major WARREN B. KERSCHNER, Bath.

To Pittsburgh, Pa., for instruction, and on completion *to Camp Hancock,* from Fort Oglethorpe, Lieut. JOHN G. POTTER, Houlton.

Maryland

To Camp Hancock, Augusta, Ga., Motor Mechanics Regiment, from Washington, D. C., Capt. COMPTON WILSON, Friendship.

To Camp Meade, Annapolis Junction, Md.; *Camp Jackson,* Columbia, S. C.; *Camp Wheeler,* Macon, Ga.; *Camp Beauregard,* Alexandria, La., for duty with the medical department, and on completion *to return to Baltimore,* Major WILLIAM S. THAYER, Baltimore.

To Fort Des Moines, Iowa, for duty, from Des Moines, Major Frank MARTIN, Baltimore.

To Fort Myer, Va., for temporary duty, from Walter Reed General Hospital, Capt. ALEXANDER D. McCONACHIE, Baltimore.

To Fort Oglethorpe, for instruction, Lieuts. DORSEY P. ETZLER, COEN L. LUCKETT, JAMES S. SPEED, Baltimore; RAYMOND K. FOXWELL, Leonardtown.

To Fort Sam Houston, Texas, for assignment to duty, Lieuts. THOMAS M. RIVERS, WILLIAM C. VON GLAHN, Baltimore.

To Newport News, Va., for duty, from Fort Oglethorpe, Major NATHAN WINSLOW, Baltimore.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Camp Lee, Lieut. WILLIAM D. D. CAWLEY, Elkton.

Honorably discharged, Lieut. JAMES A. O'DONNELL, Baltimore; on account of physical disability which existed prior to his entrance into the service, Lieut. LESLIE G. TAYLOR, Perryville.

Massachusetts

To Boston, Mass., for instruction, and on completion *to Fort Oglethorpe,* for further instruction, Lieut. ALBERT J. TREICHLER, Springfield; on completion *to Camp Devens,* from Fort Oglethorpe, Lieut. WILLIAM J. DILLON, Chicopee Falls.

To Camp Devens, Ayer, Mass., as divisional psyciatrist, from Camp Devens, Major LLOYD V. BRIGGS, Boston. For temporary duty, Capt. JOSEPH W. SCHIRMER, Needham Aviation Section, Signal Corps, as junior member of the physical examining unit, medical member of the examining board and recruiting officer, Lieut. ALFRED J. BONNEVILLE, Hatfield.

To Camp Lee, Petersburg, Va., for temporary duty, Lieut. HORACE M. BAKER, Boston.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Camp Cody, Major EDWARD B. BIGELOW, Worcester.

To Danville, N. Y., for duty in connection with Medical Department, Major ARTHUR H. CROSBIE, Boston.

To Fort Monroe, Va., for duty from Camp Meade, Major GEORGE C. PARCHER, Saugus Center. For duty, Lieut. ALBERT A. SHAPIRA, Boston.

To Fort Oglethorpe, to consult with the commandant regarding the establishment of courses in military orthopedic surgery, and on completion *to his proper station,* Major ALEXANDER S. BEGG, Cambridge. For instruction, Capt. JOHN A. McLEAN, West Somerville; Lieut. FRANK W. HODGDON, Jr., Arlington; ARTHUR M. JACKSON, Everett; CLARENCE H. HYMAN, Salem.

To Fort Sam Houston, Texas, for assignment to duty, from Camp Wheeler, Lieut. FRANKLIN A. STEVENS, Boston.

To New York City for intensive training in his specialty, Lieut. WINFRED OVERHOLSER, Wellesley Hills, *Bellevue Hospital,* for instruction, and upon completion *to Camp Custer,* for duty, from Fort Oglethorpe, Lieut. WILLIAM T. McMAHON, Pittsfield. *Neurological Institute,* for intensive training, Lieut. HERBERT R. FIEGE, Waverly.

To Rockefeller Institute, N. Y., for instruction, and on completion *to his proper station,* from Camp Devens, Capt. EUGENE A. DARLING, Cambridge; on completion to Hoboken, N. J., for temporary duty, from Fort Oglethorpe, Lieut. NICHOLAS A. GALLAGHER, Malden. For instruction in serum of therapy of pneumonia, Lieut. JOHN H. TAYLOR, Cambridge.

To Washington, D. C., for duty in the Surgeon-General's Office, Major SAMUEL J. MIXTER, Boston.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Capt. ROBERT C. RIND, Springfield.

New Mexico

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp Cody, Lieut. CHARLES C. COOKE, Vera Cruz.

Michigan

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to his proper station,* from Camp Gordon, Lieut. ABRAHAM W. HUDSON, Detroit.

To Camp Beauregard, Alexandria, La., as divisional psychiatrist, from Camp Beauregard, Capt. JOHN T. SAMPLE, Saginaw.

To Camp Sevier, Greenville, S. C., for duty, from Fort Riley, Lieut. HARRY W. REED, Detroit.

To Chicago, Ill., for instruction in orthopedic surgery, Lieuts. CARROLL S. THOMSON, Clinton; WILLIAM G. HOEBEKE, Kalamazoo.

To Fort Oglethorpe, for instruction, Capt. ROBERT B. HARKNESS, Houghton; Lieuts. ELMER D. OSMON, Allegan; RICHARD F. BOONSTRA, Detroit.

To Fort Riley, to make an examination of the command of that division, from Fort Riley, Major FREDERICK H. NEWBERRY, Detroit.

To New Orleans, La., for instruction, and on completion *to Camp McClellan,* for duty, from Fort Oglethorpe, Lieut. MORRELL M. JONES, Detroit.

To their homes and honorably discharged on account of physical disability which existed prior to their entrance into the service, from Fort Riley, Capts. WILLIAM B. LUNN, Marquette; WALTER R. T. SHARPE, Romeo.

Minnesota

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. PERCY A. WARD, Minneapolis.

To Boston, Mass., General Hospital, for instruction, in urology and dermatology, Lieut. CHARLES K. HOLMES, St. Paul.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Major PAUL B. COOK, St. Paul; Capt. RUDOLPH H. WALD, Hastings; Lieut. BRET V. BATES, Wharton; from Camp Logan, Lieut. VIRGIL H. MOATS, Minneapolis.

To Chicago, Ill., for instruction in orthopedic surgery, Capt. JAMES A. McLAUGHLIN, Minneapolis.

To Fort Omaha, Neb., U. S. Army Balloon School, for duty, Lieut. RICHARD L. LEAVENWORTH, Glencoe; KARL DEDOLPH, St. Paul.

To Fort Oglethorpe, for instruction, Capt. WILLIAM M. CHOWNING, Minneapolis.

To Fort Riley, for instruction, Lieuts. JOSEPH MOSES, Adams; GEORGE W. DEWEY, Farimont.

To Houston, Texas, Ellington Field, Aviation School, for duty, from Camp Beauregard, Lieut. FLOYD W. BURNS, St. Paul.

To Rockefeller Institute, N. Y., for instruction, and on completion *to his proper station*, from Minneapolis, Major JAMES F. CORBETT, Minneapolis.

To Washington, D. C., for duty in the Surgeon-General's Office, Major LOUIS B. WILSON, Rochester.

To West Point, N. Y., for duty from Fort Riley, Major DANIEL M. SHEWBROOKS, Minneapolis.

Mississippi

To Camp Dix, Wrightstown, N. J., for duty, from Camp Dix, Lieut. EMILE Q. WITHER, Michigan City.

To Fort Oglethorpe, for instruction, from Richmond, Va., Lieut. JAMES T. BOX, Columbus.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. WILLIAM T. WATSON, Banner; CHARLES A. McWILLIAMS, Biloxi; THOMPSON F. WORTHINGTON, Glen Allen; FRANK C. SMITH, Gloster; EMBRY P. WILSON, Houston; ROBERT M. WEBB, Nexapater; JULIUS M. REYNOLDS, Shubuta.

Missouri

To Army Medical School, Washington, D. C., for duty, Lieut. BERNARD J. MAHON, St. Louis.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. JOHN A. CARN, Amoret.

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Capt. ABRAHAM C. LEGGAT, St. Louis.

To Camp Stuart, Newport News, Va., to examine the command for mental and nervous diseases, Capt. MARC. R. HUGHES, St. Louis.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station*, from Fort Riley, Capts. LEE E. TONEY, Piedmont; WALTON F. FRY, St. Louis; Lieut. ERNEST W. CAVANAESS, Kansas City.

To Cleveland, Ohio, for instruction, and on completion *to his proper station*, from Camp Travis, Capt. MINFORD A. HANNA, Kansas City.

To Dallas, Texas, State Fair Grounds, Capt. ARTHUR L. LUDWICK, Kansas City; Lieuts. LEWIS CARTHERS, JR., Cordor; CLAUDE McRAVEN, Marston; LANSFORD M. SPALDING, Olean; ISAAC N. PARISH, Palo; CHARLES D. MENEFEE, Perry; ELIJAH A. COLLEY, St. Joseph; CHARLES C. COATS, Winston.

To Fort Oglethorpe, for instruction, Lieut. WILLIAM D. DAVIS, St. Louis.

To Fort Riley, for instruction, Capt. LEVI M. ASBURY, Merceline; Lieuts. JAMES H. MARTIN, Pilot Knob; LINUS M. RYAN, St. Louis; from Fort Riley, Lieut. ALFRED W. HARRISON, Warrensburg.

To Kansas City, Mo., Aviation Section, Signal Corps, for duty, Lieut. CLINTON K. SMITH, Kansas City.

To Kirksville, Lancaster, Rockland, Lebanon, Marshfield, Springfield, Columbia, Jefferson City, Sedalia, Joplin, St. Joseph and Kansas City, Mo., and return, for duty in connection with Medical Department of the Army, from St. Louis, Major WILLIAM H. LUEDDE, St. Louis.

To Philadelphia, Pa., University Hospital, for instruction, and on completion *to Camp Taylor*, from Fort Oglethorpe, Lieut. GEORGE D. WELLS, Strafford.

To Rockefeller Institute, N. Y., for instruction, and upon completion *to Camp Stuart*, for duty, from Camp Travis, Major HARRY M. MOORE, St. Louis.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieuts. DILLON B. HAWORTH, Kansas City; CECIL S. CAMPBELL, THOMAS E. COOPER, ALBERT A. GEBHARDT, St. Louis; JOHN L. McALISTER, Whiteoak.

To West Point, N. Y., for duty, from Fort Riley, Lieut. ROY F. MILLS, Odessa.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieuts. ROMUS ARNOLD, Carthage; JOHN ROSS MARTIN, Norwin.

Montana

To Army Medical School, Washington, D. C., for duty, Lieut. CARL O. RINDER, Deer Lodge.

To Cleveland, Ohio, for instruction, and on completion *to his proper station*, from Camp Grant, Capt. ALBERT F. LONGEWAY, Great Falls.

To Fort Riley, for instruction, Lieut. EARL S. PORTER, Moore.

Nebraska

To Army Medical School, for instruction, from Fort Riley, Lieut. MARTIN R. BROMAN, Axtell.

To Atlanta, Ga., for duty, from Camp Hancock, Lieut. IRVIN C. MUNGER, Lincoln.

To Camp Jackson, Columbia, S. C., for duty, from Fort Riley, Lieut. HAYES H. CULBERTSON, Fairbury.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Lieut. JOSEPH ANTONY, Omaha.

To Cleveland, Ohio, for instruction, and on completion *to Camp Hancock*, for duty, Lieut. CLINTON D. HEINE, Hooper.

To Fort Omaha, Neb., Aviation Section, Signal Corps, U. S. Army Balloon School, for duty, Lieuts. WILLIAM R. CORNELIUS, Cody; JAMES B. KILE, Eddyville; HIRAM H. AVERY, Florence; GUY B. IRA, Lynch; BERT F. GLEASON, Randolph. Aviation Section, Signal Corps, as medical member of examining board and recruiting officer and to render medical attention, when required, to the civilian employees of the United States, from Fort Omaha, Lieut. FRANK W. SCOTT, Lodge Pole. For duty, Lieut. ROY CROOK, Winnetoon. U. S. Army Balloon School, for duty, Lieut. WILLIAM E. MOGAN, Petersburg.

To Fort Riley, for instruction, Lieut. CLARENCE K. HYLAND, Omaha.

To Philadelphia, Pa., Univ. Hospital, for instruction, and on completion *to Camp Beauregard*, from Fort Oglethorpe, Capt. FREDERICK J. WURTELE, North Platte.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Capts. WILLIAM J. PINKERTON, Bostwick; CLARENCE MINNICK, Curtis; WILLIAM J. LEARY, Omaha; Lieuts. CLAUDE R. LAIRD, Blue Hill; WILLIAM H. PHILLIPS, Carroll; FRANK H. MORROW, Columbus; McDONALD RYAN, Danbury; JAMES G. MUIR, Milford; J. JAY McCARL, Rosalie; J. IRWIN LIMBURG, Walthill; VICTOR L. SIMAN, Winside.

New Hampshire

To Camp Douglas, Ariz., for duty, from Camp Cody, Capt. JOHN J. OSTERHOUT, Keene.

To New York City, Neurological Institute, for instruction, from University of Vermont, Capt. LEE C. STILLING, Alstead.

New Jersey

To Boston, Mass., Boston City Hospital, for instruction, and on completion to Hoboken, for temporary duty, from Fort Oglethorpe, Lieut. FRANK L. RONAYNE, Orange. Massachusetts General Hospital, for instruction, and on completion *to Camp Sheridan*, from Fort Oglethorpe, Lieut. JOHN L. LUND, Perth Amboy. Northeastern Department, for duty in coast defenses of Boston, from New York City, Lieut. ROBERT D. SCHIMMELPFENNIG, Mont Clair.

To Camp Bowie, Fort Worth, Texas, for temporary duty, Capt. HENRY B. ORTON, Newark.

To Camp Greene, Charlotte, N. C., for duty, Lieut. ARTHUR E. LEE, Belleville.

To Camp Meigs, Washington, D. C., for duty, from Camp Meigs, Lieut. HERMAN BALDAUF, Trenton.

To Fort Monroe, Va., for duty, Lieut Paul O'BRIEN, East Rutherford.

To Fort Oglethorpe, for instruction, Capt. JAMES BRESLIN, Gloucester City; Lieut. WILLIAM E. RINK, Burlington.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion *to Fort Hamilton, N. Y.*, for the same duty, and on completion *to Fort Hancock, N. J.*, for the same duty, from Camp Devens, Lieut. GRANT THORBURN, Newark.

To Hoboken, N. J., for duty, Lieut. ADFUR E. MAINES, Jersey City.

To New Orleans, La., for instruction, and on completion *to Camp Hancock*, for duty, from Camp Shelby, Lieut. FRANK H. PINCKNEY, Morristown.

To New York City, Bellevue Hospital, for instruction, and on completion *to Williamsbridge*, for duty, from Fort Oglethorpe, Lieut. SAMUEL I. DAY, JR., Port Morris. Governors Island, Eastern Dept., for assignment to duty, Lieut. WARFORD L. NIXON, Raritan.

To his home and honorably discharged, Lieut. HORACE R. LIVENGOOD.

New Mexico

To Dallas, Texas, State Fair Grounds, for duty, Lieut. GEORGE L. WYCKOFF, Dulce.

To Philadelphia, Pa.,, for instruction, and on completion *to his proper station*, from Camp Greene, Lieut. JOHN L. REID, Portales.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. JAMES A. STEEL, Las Cruces.

New York

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to his proper station*, from Camp Devens, Lieut. THOMAS A. D. SOMERS, New York City; from Camp Upton, Lieut. JOHN SMITH, JR., New York City. Massachusetts General Hospital, for instruction, and on completion *to Camp Devens*, Lieut. JOSEPH W. GARDAM, New York City.

To Camp Beauregard, Alexandria, La., for duty, from New York City, Lieut. WILLIAM GOLDSTEIN, New York City.

To Camp Dodge, Des Moines, Iowa, for temporary duty, from Fort Oglethorpe, Lieut. ALOYSIUS M. MULHOLLAND, New York City.

To Camp Greene, Charlotte, N. C., for duty, Lieuts. JOHN B. D'ALBORA, Brooklyn; CHARLES F. SHARRY, New York City.

To Camp Sherman, Chillicothe, Ohio, for temporary duty, from New York City, Lieut. HOWELL E. BABCOCK, Brooklyn.

To Cleveland, Ohio, for instruction, and on completion to Camp Custer, for duty, from Fort Oglethorpe, Capt. WILLIAM B. REID, Rome.

To Fort Logan H. Roots, Ark., for duty, Lieut. HENRY L. WENNER, JR., New York City.

To Fort McPherson, Ga., for duty, from New York City, Lieut. WALTER S. BENNETT, Glen Falls.

To Fort Monroe, Va., for duty, Lieut. PATRICK J. McKENZIE, New York City.

To Fort Oglethorpe, for instruction, Capt. FREDERICK TERWILLIGER, Spencer; Lieuts. MOSES M. FEINBERG, Bronx; DAVID NATUS, Brooklyn; PATRICK H. J. BUCKLEY, Buffalo; LLOYD L. HELLENBECK, Catskill; PHILLIP L. TURNER, Elmhurst, L. I.; WILLIAM C. BRONS, Jamaica; WILLIAM E. CARROLL, OTIS P. CHAPMAN, HERMAN LEVISON, MICHAEL J. LYNCH, CHARLES T. OLCOTT, New York City; DAVID M. HALLOCK, Southampton; from Camp Meade, Lieut. LEE A. HADLEY, Syracuse; from Camp

Pike, Lieut. CLARENCE L. SICARD, Amsterdam; from Portland Ranch, Lieut. RAE W. WHIDDEN, New York City. To conduct a nutritional survey of that camp, from Army Medical School, Lieut. ROY W. BURY, Philadelphia.

To Fort Sam Houston, Texas, for assignment to temporary duty, Capt. ALPHONSE R. DECKER, New York City. For duty in the Dept. Laboratory, from New York City, Lieut. RALPH E. ROBINSON, Belmont.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion *to Fort Hamilton, N. Y.,* for the same duty, and on completion *to Fort Hancock, N. J.,* for the same duty, from Camp Devens, Lieut. EDWARD P. EGLEE, Flushing, L. I.

To Fort Wayne, Mich., for duty, from Camp Grant, Major HENRY L. SCHELLING, Brooklyn.

To Garden City, L. I., N. Y., Aviation Section, Signal Corps, for duty, Lieut. ROBERT A. MACTAGGART, Schenectady.

To Hoboken, N. J., for duty, Lieut. ROBERT A. CHRISTMAN, New York City; to examine the command at Camp Merritt, N. J., for nervous and mental diseases, from New York City, Lieut. EUGENE N. BOUDREAU, Auburn.

To Lakewood, N. J., for duty, from Fort Oglethorpe, Capt. JEREMIAH A. ALLIS, New York City.

To New York City, for duty, in reference to drug addiction, Major PEARCE BAILEY, New York City. Bellevue Hospital as Military Director of the course in fractures and war surgery, Major JOHN A. HARTWELL, New York City; on completion *to Camp Hancock,* Lieut. NELSON R. FRASIER, Glen Falls; on completion *to Camp Lee,* from Fort Oglethorpe, Lieut. VINCENT J. T. O'NEILL, Staten Island; on completion *to Fort McHenry,* from Fort Oglethorpe, Lieut. SAMUEL PALEG, New York City; on completion *to Williamsbridge,* for duty, from Fort Oglethorpe, Lieut. THOMAS J. RYAN, New York City. Neurological Institute, for intensive training, Lieut. JOHN P. McNEILL, Central Islip, L. I. Surgical school, for intensive training in his specialty, Lieut. IRVING H. PARDEE, New York City.

To Philadelphia, University Hospital, for instruction, and on completion to Camp Gordon, from Fort Oglethorpe, Lieut. JOHN H. WATSON, Buffalo.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Camp Sheridan, Major GEORGE P. COOPERNAIL, Bedford.

To Rantoul, Ill., Signal Corps, Aviation School, Chanute Field, for duty, Lieut. LINN V. H. REED, Garden City, L. I.

To Rockefeller Institute, N. Y., for instruction, and on completion *to Camp Jackson* for duty, from Fort Oglethorpe, Major HARRY LIPES, Albany; on completion *to his proper station,* from Fort Wadsworth, Capt. ARTHUR S. DRISCOLL, Staten Island; on completion *to his proper station,* Lieut. THOMAS E. LAVELLE, Williamsbridge; from Camp Gordon, Lieut. HARRY GOLDMAN, Long Island City; from Camp Upton, Lieuts. GEORGE G. McELVARE, New York City; EDWIN C. FOSTER, Penn Yan; on completion *to Camp Grant,* for duty, from Fort Wayne, Lieut. JOSEPH H. BEATTIE, Dobbs Ferry.

To San Antonio, Texas, Green Memorial Hospital, for duty, from San Antonio, Capt. JOHN D. GULICK, Schenectady.

To Washington, D. C., for duty in the Surgeon-General's Office, from Fort Oglethorpe, Major RICHARD H. HUTCHINGS, Ogdensburg.

Honorably discharged, Lieut. ADOLPH J. NEWMAN, New York City.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, from Camp Grant, Lieut. PERCY H. FINCH, Broadalbin.

North Carolina

To Belvoir, Va., for duty, from Surgeon-General's Office, Lieut. GLENN LONG, Catawba.

To Camp Hancock, Augusta, Ga., for duty, from Camp Meade, Lieut. JOSEPH W. HOOPER, Wilmington.

To Camp Sevier, Greenville, S. C., for duty, from New York City, Lieut. MILTON T. EDGERTON, Greenville.

To Fort Oglethorpe, for instruction, Lieuts. HERBERT F. MUNT, Boardman; SAM W. HURDLE, Spray; from Richmond, Lieut. ALVIN C. McCALL, Rocky Mount.

To New York City, Bellevue Hospital, for instruction, and on completion *to his proper station,* from Fort Oglethorpe, Lieut. JAMES F. ROBERTSON, JR., Wilmington.

To San Antonio, Texas, Green Memorial Hospital, for duty, from San Antonio, Lieut. JOHN B. POWERS, Wake Forest.

North Dakota

To Fort Riley, for instruction, Capt. GEORGE A. CARPENTER, Fargo.

To his home and honorably discharged, Lieut. CARL L. BRIMI, Cooperstown.

Ohio

To Berkeley, Calif., University of California, for duty, from San Francisco, Lieut. JESSE C. EDWARDS, Columbus.

To Boston, Mass., Boston City Hospital, for instruction, and on completion *to his proper station,* from Fort Oglethorpe, Capt. JOHN G. MARTIN, New Concord; on completion *to Camp Wadsworth,* from Fort Oglethorpe, Lieut. GEORGE A. HAVEMANN, New Bremen.

To Camp Custer, Battle Creek, Mich., as Divisional Psychiatrist, from Camp Custer, Capt. FRANK D. FERNEAU, Toledo.

To Camp Greene, Charlotte, N. C., for duty, from Fort Oglethorpe, Capt. PAUL G. WOOLLEY, Cincinnati.

To Camp Hancock, Augusta, Ga., for temporary duty, from Columbus Barracks, Capt. EDWARD C. LUDWIG, Columbus Barracks.

To Camp Joseph E. Johnston, Jacksonville, Fla., for duty, from New York City, Lieut. RICHARD E. STIFEL, Cleveland.

To Camp Stuart, Newport News, Va., to examine the command, and on completion *to his proper station,* Lieut. CARROLL L. STORY, Oberlin.

To Central Dept., for assignment to duty, Lieut. PAUL MORRISON, Tilionville.

To Chicago, Ill., for instruction in orthopedic surgery, Capt. JOHN V. HARTMAN, Findlay; Lieut. LEONARD E. STUTSMAN, Dayton.

To Fort Leavenworth, Kansas, for duty, Capt. JAMES F. ELKER, Youngstown.

To Fort Monroe, Va., for examination to determine his fitness to perform the duties of his office and on completion to his proper station, from Morrison, Lieut. HENRY A. LICHTIG, Cleveland.

To Fort Oglethorpe, for instruction, Lieut. ROBERT C. AUSTIN, Dayton.

To Fort Riley, for instruction, Capt. LEE R. FAST, Paulding.

To Fort Sam Houston, Texas, for assignment to duty, from New York City, Lieut. HENRY J. JOHN, Salem.

To Rockefeller Institute for instruction, and on completion *to his proper station,* from Camp Lee, Lieut. HAROLD K. MOUSER, Marion.

To West Point, N. Y., for duty, from Fort Oglethorpe, Capt. PAUL G. WOOLLEY, Cincinnati.

Honorably discharged, Lieut. JOHN R. CUM, Forest; on account of physical disability which existed prior to his entrance into the service, Lieuts. FRANK R. MAKENSON, Bellefontaine; GEORGE E. CALHOUN, Uhrichsville; RALPH W. FAUS, Wellington.

Oklahoma

To Army Medical School, as assistant roentgenologist, from New York City, Lieut. JOHN E. HEATLEY, Carmen.

To Camp Bowie, Fort Worth, Texas, for duty, from Oklahoma City, Capt. REX C. BOLEND, Oklahoma.

To Camp Doniphan, Fort Sill, Okla., as orthopedic surgeon, and as consultant in such orthopedic cases as may be referred to him by proper authority, from Camp Meade, Lieut. JESSE B. HOLLIS, Hobart.

To Camp MacArthur, Waco, Texas, Aviation Section, Signal Corps, for duty, Lieut. TIMOTHY J. BUTLER, Weatherford.

To Camp Travis, Fort Sam Houston, Texas, for duty, from Fort Riley, Lieut. CLARENCE L. WELLMAN, Coalton.

To Fort Leavenworth, Kan., for duty, Lieut. JOSEPH H. SANFORD, Muskogee.

To Fort Oglethorpe, for instruction, Lieut. GEORGE E. KERR, Chattanooga.

To Fort Riley, for instruction, Lieut. LOUIS BAGBY, Vinita.

To New Orleans, La., Charity Hospital, for instruction, and upon completion *to his proper station,* from Fort Sam Houston, Lieut. MARVIN E. STOUT, Oklahoma City.

To San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Capts. JAMES M. BONHAM, Hobart; ABRAHAM L. HAZEN, Newkirk; Lieuts. GEORGE B. COKER, Cyril; LOGAN I. EVANS, Drumright; GEORGE S. BARBER, Lawton; ROY K. GOODARD, Mounds; GARDNER H. APPLEWHITE, Shawnee.

Oregon

To Camp Grant, Rockford, Ill., for duty, from Fort Riley, Lieut. EDWIN E. STRAW, Marshfield.

To Camp Lewis, American Lake, Wash., for duty, Capt. JOSEPH F. WOOD, Portland.

To Camp Sheridan, Montgomery, Ala., for temporary duty, from Fort Oglethorpe, Lieut. HARRY M. BOUVY, La Grande.

To Chicago, Ill., for instruction in orthopedic surgery, from Camp Dodge, Capt. EDGAR H. BROWN, McMinville. Presbyterian Hospital, for instruction, and on completion *to his proper station,* from Camp Lewis, Lieut. ERNEST H. STREIT, Portland.

Pennsylvania

To Aberdeen, Md., for duty, Lieut. WILLIAM C. REESE, Wilkes-Barre.

To Camp American University, for duty, from Fort Oglethorpe, Lieut. GARNETT P. MORISON, Latrobe.

To Camp Dodge, Des Moines, Iowa, for duty, from Fort Riley, Lieut. ARTHUR J. ZIMLICK, Philadelphia.

To Camp Greene, Charlotte, N. C., for duty, Lieut. FRED H. HARRISON, Pittsburgh.

To Camp MacArthur, Waco, Texas, for duty, from Army Medical School, Lieut. OTTO C. HIRSCH, Philadelphia.

To Cleveland, Ohio, for instruction, and on completion *to his proper station,* from Camp Sevier, Capt. CLARK McE. LUMAN, Uniontown; on completion *to Camp McClellan,* for duty, from Fort Oglethorpe, Lieut. FRANCIS E. DONNELLY, Wilkes-Barre.

To Fort Benjamin Harrison, for duty, from Fort Sheridan, Major GEORGE C. KIEFFER, Philadelphia.

To Fort McPherson, Ga., for duty, from Camp Lee, Lieut. GEORGE R. MOFFITT, Harrisburg.

To Fort Oglethorpe, for instruction, from Camp Dix, Capt. ALEXANDER H. DAVISSON, Philadelphia; Lieuts. ROBERT McR. BIDDLE, Ashland; JOHN M. STEWART, Marion Center; SAMUEL ITSCOITZ, McKeesport; GEORGE M. ASTLEY, JOHN J. NEAL, Philadelphia; CHARLES F. BUTLER, JOHN P. DUGGAN, JOHN M. LIPSCOMB, MAXIMILIAN H. WEINBERG, Pittsburgh; WILLIAM L. ESTES, JR., South Bethlehem; from Camp Pike, THOMAS McS. BARRETT, Emsworth.

To Fort Strong, Mass., for duty, from New York City, Lieut. WALTER L. LYNN, Wilkes-Barre.

To Edgewood, Md., U. S. Filling Station, for duty, Lieuts. FRANKLIN P. PHILLIPS, Clarion; BERNARD J. McCORMICK, Pittsburgh.

To Hoboken, N. J., to examine the command at Camp Merritt, for nervous and mental diseases, from New York City, Lieut. MATTHEW C. BAINES, Philadelphia.

To Lakewood, N. J., for duty, from Camp Meade, Lieut. DAVIS S. GRIM, Reading.

To New York City, Bellevue Hospital, for instruction, and on completion *to Fort Oglethorpe,* for instruction, Lieut ROBERT W. RICHARDS, Shingle House; on completion *to his proper station,* from Camp Dix, Lieut. SNOWDEN K. HALL, Sharpsburg. For instruction in therapy of pneumonia, Lieut. ALLEN W. SIVYER, Philadelphia.

To Philadelphia, as instructor, Capt. CLEMENT R. BOWEN, Philadelphia. For instruction, Lieut. JOHN H. ARNETT, Philadelphia; and on completion *to his proper station,* from Camp Jackson, Lieut. WILLIAM D. GATES, Indiana.

To Pittsburgh, Pa., Aviation Section, Signal Corps, for duty, Lieut. CHARLES R. BRENNER, Pittsburgh.

To Rockefeller Institute, N. Y., for instruction, and on completion *to his proper station,* from Camp Wadsworth, Capt. STILLWELL C. BURNS, Philadelphia.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Lieut. WILLIAM C. SEALE, Philadelphia.

To Washington, D. C., for instruction, from Camp Dix, Lieut. CHARLES C. GANS, Chambersburg.

Honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. GEORGE B. KUNKEL, Harrisburg; THOMAS A. BOOTH, Boothwyn; *to his home and to the inactive list of the Medical Reserve Corps,* Lieut. JOSEPH H. WYATT, Mahanoy City.

Porto Rico

To Porto Rico, U. S. Troops, for duty, Lieut. ALBERTO G. DE QUEVEDO, Cidra.

Rhode Island

To Camp Doniphan, Fort Sill, Okla., for temporary duty, Capt. HOWARD E. BLANCHARD, Providence.

To Northeastern Department, for assignment to duty, Capt. CHARLES F. PERRY, Block Island.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, from Camp Sherman, Lieut. FRANCIS E. CROGHAN, Providence.

South Carolina

To Boston, Mass., General Hospital, for instruction in urology and dermatology, from Camp Lee, Lieut. RALPH H. McFADDEN, Chester.

To Charleston, S. C., Roper Hospital, as medical member of examining board and recruiting officer, Lieut. CLAUDIUS F. BALLOCK, Nichols.

To Fort Oglethorpe, for instruction, Lieut. OLIN D. BUSBEE, Springfield.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp McClellan, Lieut. WALKER H. POWE, Greenville.

To Rockefeller Institute, N. Y., for instruction, and on completion to Williamsbridge, for duty, from Fort Oglethorpe, Capt. MORGAN P. MOORER, Georgetown.

To his home and honorably discharged, Lieut. JOHN H. PRATT, Ninety-Six.

South Dakota

To Philadelphia, Pa., for instruction, and on completion *to his proper station,* from Camp Doniphan, Capt. THOMAS W. MOFFITT, Deadwood.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieuts. FRANK A. SWEZEY, Wakonda; HERSCHEL G. HARRIS, Wilmot.

Tennessee

To Boston, Mass., General Hospital, for instruction, and on completion *to Camp Green,* for duty, Lieut. DABNEY MINOR, Cleveland.

To Camp American University, Washington, D. C., for duty, from Fort Oglethorpe, Lieut. DANIEL C. HAGGARD, Unionville.

To Camp MacArthur, Waco, Texas, Aviation Section, Signal Corps, for duty, Major VERNON K. DARTHMAN, Murfreesboro.

To Central Department, for assignment to duty, Capt. JAMES D. HENDERSON, Knoxville.

To Fort Oglethorpe for instruction, Lieuts. STARNES K. WALKER, Bradford; IRA J. TATUM, Gleason; from Richmond, Lieut. WILLIAM E. TROXLER, Lewisburg.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Camp Gordon, Capt. LEON L. MEYER, Memphis.

To West Point, N. Y., for duty, from Fort Oglethorpe, Capt. JOHN M. LEE, Nashville.

Texas

To Camp Beauregard, La., for duty, from Camp Stanley, Lieut. EDGAR R. BOREN, Dallas.

To Camp Bowie, Fort Worth, Texas, for duty, Lieuts. JOHN C. SCHILLING, Cedar Bayou; PAUL DEW. ROBASON, May; RENNIE WRIGHT, New Braunfels.

To Camp Doniphan, Fort Sill, Okla., for duty, from Fort Riley, Lieut. JAMES P. McANULTY, San Angelo.

To Camp John Wise, San Antonio, Texas, Army Balloon Camp, for duty, Lieuts. COLEMAN A. NEWLAND, Lipscomb; JOHN G. GUENTHER, Moulton; LLEWELLYN E. McADON, San Antonio.

To Camp MacArthur, Waco, Texas, for duty, Capt. HARRY V. JACKSON, El Paso. Aviation Section, Signal Corps, for duty, Lieuts. FRANCIS W. CARRUTHERS, Blooming Grover; WILLIAM P. LOWRY, Decatur; ANTHONY E. LANKFORD, Stephenville.

To Dallas, Texas, State Fair Grounds, for duty, Lieut. PYLE G. THORNTON, Westpoint.

To Fort Monroe for examination to determine his fitness to perform the duties of his office and on completion *to his proper station,* from Morrison, Lieut. HENRY E. LUEHRS, Mathis.

To Fort Oglethorpe, for instruction, from Richmond, Capt. WILLIAM R. FICKESSEN, San Antonio. For instruction, Lieuts. JAMES S. MARSHALL, Blossom; JOSHUA P. WOOD, Flynn; ISAAC D. JACKSON, San Antonio.

To Fort Riley, for instruction, Major IRVY L. McGLASSON, Waco.

To Houston, Texas, Signal Corps, Aviation School, Ellington Field, for duty, Capts. THOMAS F. RYAN, Dublin; ARTHUR H. BUTLER, El Paso; Lieuts. HOWARD C. CURTIS, McKinney; DEWITT C. BURKES, San Antonio; CHARLES E. CHANDLER, Shive; HOMER T. ELKINS, Sinton.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station,* from Camp Logan, Capt. GEORGE A. McBRIDE, Harlingen.

To New York City, Bellevue Hospital, for instruction, and on completion *to Williamsbridge, L. I.,* for duty, Lieut. J. FRANK CLARK, Iowa Park.

To Oklahoma City, Okla., for instruction in orthopedic surgery, Lieut. WILLIAM A. LEE, Denison.

To San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty, Capt. WILLIAM R. JAMIESON, El Paso; Lieuts. JESSE H. HERNDON, Atlanta; HENRY F. PHILIPS, Big Springs; WILLIAM J. McLEAN, Caldwell; WILLIS G. YOUENS, Columbus; JAMES H. HAMILTON, Jonesboro; JOHN W. ELLIS, Killeen; JAMES W. SHADDIX, Marietta; HOWE K. RIDDLE, Rockdale; EMILE C. SCHULZE, Shiner; WILLIAM R. JOHNSON, Snyder; WILLIAM F. P'POOL, Sweetwater; WILLIAM E. McKINNEY, Temple; ARTEMUS H. MARTINDALE, Teneha; ROBERT M. MILNER, Yoakum. Kelly Field, for duty, Lieut. ALBERT J. POLLAND, Alvin.

To South San Antonio, Texas, Kelly Field, Aviation Section, Signal Corps, for duty as a private at Camp Travis, Lieut. WILLIAM M. BARRON, Blanco.

To St. Louis, Mo., Washington University, for instruction, Capt. IRA PRITCHETT, Houston.

To their homes and honorably discharged on account of physical disability which existed prior to entrance into the service, Lieuts. CALVIN G. STRICKLIN, Clarendon; HARRY H. HENDRICKS, Dallas.

Utah

To Rockefeller Institute, N. Y., for instruction, and on completion *to Washington, D. C.,* for duty in the Surgeon-General's Office, Major SAMUEL C. BALDWIN, Salt Lake City.

To Western Department, for assignment to duty, Capt. FREDERICK DUNN, Springville.

Vermont

To San Antonio, Texas, Green Memorial Hospital, from San Antonio, Lieut. ARTHUL L. LARNER, Burlington.

Virginia

To Camp Lee, Petersburg, Va., for duty, from Newport News, Lieut. SAMUEL DOWNING, Wicomica Church.

To Chicago, Ill., for instruction in orthopedic surgery, from Ft. Snelling, Major RHODRIC W. BROWN, Norfolk.

To Fort Monroe, Va., Aviation Section, Signal Corps, for duty, Lieut. SAMUEL M. FORD, Lebanon.

To Fort Oglethorpe for instruction, Lieuts. WESLEY R. PUTNAY, Norwood; JAMES O. MUNDY, JR., Raccoon Ford; from Richmond, Lieuts. JAMES N. WILLIAMS, Clifton Forge; JOHN L. TABB, JR., Midlothian; SAMUEL A. RHYNE, Norfolk; FREDERICK P. FLETCHER, JR., LAWTHER J. WHITEHEAD, Richmond; PATRICK M. CARROLL, Rico Vista; CLYDE L. BAILEY, Sutherlin.

To Newport News, Va., for duty, from Camp Lee, Lieut. OTIS T. AMORY, Newport News; from Richmond, Lieut. FAYETTE A. SINCLAIR, Richmond.

To Pittsburgh, Pa., for instruction, and on completion *to his proper station,* from Camp Lee, Lieut. ISAAC H. GOLDMAN, Richmond.

To West Point, N. Y., for duty, from Fort Oglethorpe, Major THOMAS R. MARSHALL, Ware Neck.

Washington

To Camp Cody, Deming, N. M.: *Camp Doniphan,* Fort Sill, Okla.; *Camp Bowie,* Fort Worth, Texas; *Camp MacArthur,* Waco, Texas; *Camp Travis,* Fort Sam Houston, Texas; *Camp Logan,* Houston, Texas; *Camp Beauregard,* Alexandria, La.; *Camp Pike,* Little Rock, Ark., for inspection, and on completion of this duty at Camp Pike, to proceed *to Camp Cody,* to await further instruction, from Camp Lewis, Capt. EDWARD A. RICH, Tacoma.

To Camp Dodge, Des Moines Iowa, for duty, from Fort Riley, Lieut. WILLIAM H. BOONE, North Yakima.

To Camp Travis, Fort Sam Houston, for duty, from Fort Riley, Lieut. ROY C. BAUMGARTEN, Seattle.

To Chicago, Ill., Presbyterian Hospital, for instruction, and upon completion *to his proper station,* from Camp Lewis, Capt. JOHN W. HUNT, Seattle.

To New York City, for instruction, and on completion *to Camp Wheeler,* from Fort Worden, Capt. RICHARD C. HILL, Fort Worden.

To Western Dept. for assignment to duty, Lieuts. WILHO A. GROENLUND, Seattle; PAUL C. RIDPATH, Spokane.

To his home and honorably discharged, Capt. JOHN W. EDWARDS, Port Townsend.

West Virginia

To Camp Devens, Ayer, Mass., for duty, from Camp Devens, Capt. JOHN W. MOORE, Charleston.

To Columbus, Ohio, Aviation Section, Signal Corps, for duty, Lieut. JAMES V. WOOFTER, Curtin.

To Fort Oglethorpe, for instruction, Lieut. HARRY L. BEARD, Lewisburg.

To Fort Totten, N. Y., to examine the command for tuberculosis, and on completion *to Fort Hamilton, N. Y.,* for the same duty, and on

completion *to Fort Hancock, N. J.*, for the same duty, from Camp Devens, Capt. GEORGE H. BARKSDALE, Charleston.

Wisconsin

To Camp Pike, Little Rock, Ark., for temporary duty, Lieut. WILLIAM W. GILLESPIE, Milwaukee.

To Chicago, Ill., Presbyterian Hospital, for instruction, and on completion *to his proper station*, from Fort Riley, Capt. FREDERICK C. HUFF, Sturgeon Bay. For instruction in orthopedic surgery, Lieut. GEORGE H. SCHLESSELMAN, Fond du Lac.

To Fort Oglethorpe, for instruction, Lieut. JOSEPH J. FRANCE, Milwaukee. For duty, from New York City, Lieut. HERMAN A. HEISE, Madison.

To Fort Riley, for instruction, Lieut. SHERMAN M. KYES, Owen.

To Milwaukee, Wis., for duty, from Fort Riley, Lieut. JOHN W. SMITH, Milwaukee.

To Mineola, L. I., N. Y., Hazelhurst Field, Aviation School, from Mineola, Capt. EDWIN G. FESTERLING, Reedsville.

To New Orleans, La., Charity Hospital, for instruction, and on completion *to his proper station*, from Camp Bowie, Lieut. HERBERT T. BARNES, Pewaukee.

To West Point, N. Y., for duty, from Fort Riley, Lieut. ARTHUR D. SMITH, Gilmanton.

Honorably discharged from the Medical Reserve Corps, Lieut. WILLIAM C. McCORMICK, Tomahawk.

To his home and honorably discharged on account of physical disability which existed prior to his entrance into the service, Lieut. WILLIAM T. LOCHEMES, Milwaukee.

FIRST LIEUTENANTS OF THE MEDICAL RESERVE CORPS RECOMMENDED FOR PROMOTION AS CAPTAINS, JAN. 31, 1918

MERIWETHER LEWIS ANDERSON, Richmond, Va.; HUGH BAILY BARCLAY, Greensburg, Pa.; HOMER BEALL, Malden, Mo.; FRANK PHILIP BRENDEL, San Francisco, Calif.; WILLIAM THOMAS CALLERY, Weehawken, N. J.; DONALD SMYTHE CHILDS, New York City; LEO WESLEY CHILTON, Canyon City, Ore.; PRENTISS BOWDEN CLEAVES, Cherokee, Iowa; JOHN HENRY EVANS, Chicago; HART ELLIS FISHER, Chicago; FREDERICK GROSVENOR GOODRIDGE, Ponfret Center, Conn.; THOMAS WRAY GRAYSON, Pittsburgh, Pa.; JOHN HOWARD HALL, Atlanta, Ga.; DREW R. HANDLEY, Raiford, Fla.; JOHN LINCOLN HERTZ, Lititz, Pa.; RAY HOLLY HUMPHREY, Union, N. Y.; ARTHUR PERCY JANES, Boston, Mass.; WILLIAM LEROY KENNEY, St. Joseph, Mo.; JOSEPH CARL KIMBALL, Joliet, Ill.; THOMAS JOSEPH KIRWIN, New York City; HENRY WILLIAM LANG, Gonzales, La.; GEORGE B. LESUEUR, Gonzales, La.; MINOR CARSON LILE, University, Va.; GEORGE MORRISON LOGAN, Akron, Ohio; MARCUS WARD LYON, Jr., Washington, D. C.; CHARLES PERCY MAJOR, Philadelphia, Pa.; PHILIP BENJAMIN MATZ, Leavenworth, Kan.; ALEXIS MERRITT MELVIN, Royersford, Pa.; CARL MULKY, Warrensville, Ohio; NORMAN OSCAR NELSON, Madison, Wis.; ROSCOE MAX NICHOLSON, Chicago; GROVER CLEVELAND ROBERSON, Hurricane, W. Va.; EDWARD BANCROFT ROGERS, Collingwood, N. J.; JOHN ADOLPH ROLLINGS, Roda, Va.; LAMBERT WILLIAM ROSENBAUM, Chicago; ERIK THEOPHILE SANDBERG, Cardinal, Va.; RANDOLPH SNIDER, St. Francisville, Ill.; CARROLL LAWRENCE STOREY, Oberlin, Ohio; ROBERT YOUNG SULLIVAN, Washington, D. C.; DELAMAR TURNER, Savannah, Ga.; EDGAR SHARON TURNER, La Follette, Tenn.; ROBERT EMMET WALSH, New York City; JAMES CARLISLE WALTON, Isabel, S. Dak.; CHARLES HENRY WEINTZ, Cincinnati, Ohio; WALTER JOHN WHITEHOUSE, Marcus Hook, Pa.; EDWARD AUGUSTUS WILLIS, Indianapolis, Ind.; CONSTANT PERKINS WILSON, Jr., Fort Smith, Ark.; EUGENE PIERSON WRIGHT, Chicago; ROBERT FRANCIS ZIMMERMAN, Elmhurst, New York.

Report of Cremation Society.—The Report of the Council of the Cremation Society of England for the year ending December 31, 1916, shows that the number of cremations at Woking was 125 as compared with 153 for the preceding year. At Golders Green, the cremations numbered 633 as against 730 for the previous year. The total number of cremations for Great Britain was 1,366 in 1916 and 1,410 for the previous year. The two principal crematories in England are located at Woking and Golders Green, London. Propaganda in the interest of the cremation movement has been retarded on account of the war, though many inquiries on the subject have reached the headquarters of the society and considerable literature has been distributed. The society was made the beneficiary of a legacy of $50,000 from the late Mr. George Patrickson of Ulverston, who died in 1915. Sir Charles Cameron is president of the society and the secretary is George A. Noble. The offices are at 324 Regent Street, W., London.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest; such as relate to society activities, new hospitals, education, public health, etc.)

GEORGIA

Legacy for Health Laboratory.—The physicians of Augusta and Richmond counties have sent a signed statement to the J. B. White legacy committee urging the committee to set aside $200,000 from the J. B. White bequest to Augusta, to build and equip a public health laboratory.

Personal.—Dr. Lorick T. Pattillo, director of the state laboratory, Atlanta, has resigned and the selection of his successor has been delegated by the state board of health to its secretary, Dr. J. C. Abercrombie.——Dr. William L. Gilbert, Atlanta, has been elected chairman of the board of county commissioners of Fulton County.

State Board Appointments.—The following appointments to membership on the state board of health were announced by the governor, January 1: Dr. John W. Daniel, Savannah, six years; Dr. Arthur D. H. Little, Thomasville, six years; Dr. Millard S. Brown, Fort Valley, six years; Dr. Arthur C. Shamblin, Rome, to fill the unexpired term of Dr. William L. Funkhouser, resigned, whose term expires, Jan. 1, 1920.

New Officers.—Ware County Medical Society at Waycross, December 20: president, Dr. Henry J. Carswell; vice president, Dr. Daniel M. Bradley, and secretary-treasurer, Dr. Wilbur C. Hafford, Fort Meade, Fla.——Laurens County Medical Society, at Dublin, December 19: president, Dr. William E. Williams, Rockledge; vice president, Dr. John J. Barton, Dublin, and secretary-treasurer, Dr. Jason H. Moore, Dublin.——Georgia Medical Society, at Savannah, December 11: president, Dr. James O. Baker; vice president, Dr. Walter A. Norton, and secretary-treasurer, Dr. William H. Myers (reelected). Resolutions were adopted on the death of Dr. William W. Owens, a former president of the society.

IDAHO

New Board Officers.—At a recent meeting of the Idaho State Board of Medical Examiners, Dr. G. T. Parkinson, Rexburg, was elected president; Dr. G. W. States, Preston, vice president, and Dr. Ray H. Fisher, Rigby, secretary.

ILLINOIS

Chicago

Major Kellogg Speed in Convalescent Hospital.—Major Kellogg Speed, M. R. C., U. S. Army, accidentally cut his hand on November 8 while performing an amputation. In fourteen hours he had developed a gas bacillus and streptococcus infection of the left hand and had been operated on. Secondary troubles developed affecting principally the left knee and thigh, and he has been for some time in No. 8 (Michelham) Home for Convalescent British Officers, care of A. P. O., S. 7., B. E. F., France.

Tuberculosis Institute Meets.—The annual meeting of the Chicago Tuberculosis Institute was held, January 31, and the following officers were elected: president, Dr. Robert H. Babcock (reelected); vice presidents, Drs. Ethan A. Gray and Edwin W. Ryerson; secretary, Mr. George W. Perkins; treasurer, Mr. David R. Forgan; executive committee, Drs. Ethan A. Gray, Robert H. Babcock, William A. Evans, Orvin W. McMichael, Stephen R. Pietrowicz, Edwin M. Ryerson, Mrs. James L. Houghteling, Mr. George W. Perkins, Mr. Horace K. Tenney, and board of directors, Drs. George W. Babcock, William A. Pusey, Max Biesenthal and Stephen R. Pietrowicz, and Mrs. E. C. Dudley, Miss Anna Fitzgerald, Mrs. James L. Houghteling and Messrs. G. A. Ranney, Horace K. Tenney and Matthew Woll. The receipts for the year were $120,879, and the disbursements, $105,532.

MARYLAND

School of Hygiene and Public Health.—In October, 1918, the Johns Hopkins University will open a school of hygiene and public health, as announced in a university circular, January, 1918, to supply the "need of larger and better opportunities for training and investigation in the science and art of hygiene and public health." This has been made possible by the cooperation of the Rockefeller Foundation. Dr. Wil-

liam H. Welch has been made director and Dr. William H. Howell has been named to assist in the organization. New buildings and laboratories will be erected at once, and it is hoped to have one of the main buildings of the school ready for use at the opening in October. The laboratories will for the present be provided for elsewhere in the university. The preliminary announcement of entrance requirements, courses, etc., is contained in the circular New Series, 1918, No. 1. The degree of Doctor of Public Health will be granted.

Personal.—Drs. A. C. Tiemeyer and James J. Edwards of the University Hospital visiting staff were injured when their automobile went over an embankment and turned turtle, pinning both physicians beneath the car. Dr. Tiemeyer sustained a fractured arm and lacerations about the body, while Dr. Edwards suffered a broken left leg. The accident occurred when the physicians were responding to an urgent call to Fallston.——Dr. William S. Thayer, major in the Medical Reserve Corps, who recently returned to Baltimore after several months' spent with the Red Cross Commission in Russia, expects to leave for France the middle of the month, where he will serve with the Medical Corps of the U. S. Army.——Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, who has completely recovered from a recent illness, has resumed his duties in Washington, where he is serving in the Surgeon-General's Office.

MASSACHUSETTS

Speech Clinic Opened.—The formal opening of the Kindergarten Speech Clinic by the Public School Speech Teachers' Association was held at the clinic, 100 Riverway, Boston, January 18.

Personal.—Dr. George F. Hart, Webster, has been placed at the head of the senate committee on public health.——Dr. Thomas R. Healy has been reelected vice chairman of the school board of Newburyport and Dr. T. B. McGurn, city physician.——Dr. Thomas F. Burns has been designated as attending physician to the contagious disease hospital of Fall River.——Dr. James Marsh Jackson, Boston, on whom an abdominal section was performed at the Massachusetts General Hospital, December 24, is reported to be securely convalescent.

Hospital Items.—The board of health of Holyoke has voted to name the new isolation hospital, which is now nearing completion, the Carpenter Hospital for Contagious Diseases, in memory of the late Dr. Charles O. Carpenter.——The Massachusetts Committee on Public Safety has established the Massachusetts State Guard Hospital in the new Commonwealth Armory, Boston. The hospital will consist of twenty-two wards of twenty beds each, and will be under the direction of Lieut.-Col. William A. Brooks, acting chief surgeon of the state guard.——One of the buildings of the west department of the Boston City Hospital has been given over exclusively to the care of whooping cough cases, and another building to the care of diphtheria cases.

MISSOURI

State Board Election.—At the annual meeting of the state board of health held in Jefferson City, January 8, the following officers were elected: Dr. Wilson J. Ferguson, Sedalia, president (reelected); Dr. William A. Clark, Jefferson City, vice president, and Dr. George H. Jones, Kansas City, secretary (reelected).

Shaffer Tours Cantonments.—Dean Philip A. Shaffer of Washington University, and Major in the food division of the Surgeon-General's Office, Washington, D. C., is making a tour of the cantonments, before leaving for France to take charge of the food division with the expeditionary forces. Dr. A. Candy Robinson will serve as acting dean of the school during Dr. Shaffer's absence.

Smallpox.—W. H. Coon, health director of Kansas City, has reorganized the contagious disease commission; Dr. Ellsworth H. Trowbridge, Kansas City, is at the head of the department, and Dr. D. H. Miller is appointed field physician.——The east wing of the Leed's Tuberculosis Hospital has been opened to accomodate smallpox cases, of which from twenty-five to thirty are being reported every day.

NEBRASKA

New Officers.—At the annual meeting of the Elkhorn Valley Medical Association held at Fremont, the following officers were elected: president, Dr. John D. Reid, Pilger; vice presidents, Drs. Hamilton N. Morrow and Hardy A. Skelton, Spencer; secretary, Dr. Anders P. Overgaard, Omaha, and treasurer, Dr. Sylvester A. Preston, Fremont.

Personal.—Dr. William F. Wild, formerly epidemiologist of the state department of health, has been appointed chief health officer of the state, and Dr. William H. Wilson, Lincoln, has been appointed state epidemiologist.——Dr. Warren Perry, Fairbury, fell in his house, January 17, fracturing his leg.——Dr. Elmer S. Tenney, Lincoln, chief health officer of Nebraska, has resigned to accept war service.——Dr. James A. Burford, Wilcox, has succeeded Dr. E. R. Lawrence, Fall City, as assistant physician to the state institute for the feebleminded.——Dr. Edwin C. Henry, Omaha, who was operated on for appendicitis, December 24, at Lord Lister Hospital, Omaha, is reported convalescent.——The residence of Dr. Albert P. Condon, Omaha, was destroyed by fire, December 14.——Dr. Noah Hayes, Lincoln, has been appointed assistant physician at the Hastings State Hospital.——Dr. Lawrence F. Sidwell, Ingleside, first assistant physician at the Hastings State Hospital, has been transferred to a similar position at the Lincoln State Hospital.

NEW YORK

Personal.—The appointment of Dr. George S. Staniland as a member of the Municipal Hospital Commission of Buffalo has been confirmed.

New York

Veterinarians Urge Use of Horse Meat as Food.—At a conference of the veterinarian surgeons of Connecticut, Massachusetts, New York and New Jersey, held in the Veterinary College in New York, January 26, resolutions were adopted calling on Congress for an immediate appropriation of $100,000 to provide for the government inspection of horse meat. The veterinarians hold that if government inspection were established, great numbers of horses in the western ranges would be made available for food.

Instruction in Contagious Diseases.—The New York City Health Department announces that a course of instruction in contagious diseases has been arranged to be given at the Kingston Avenue Hospital, Brooklyn. The course is similar to that given in 1917 at the Willard Parker Hospital in New York, which proved a success. It will be conducted Tuesdays, Wednesdays, Thursdays and Fridays at 3 o'clock by experienced men; one class began Tuesday, February 5, to continue for eight lessons, and another will begin March 5. Classes are limited to ten members each. The courses at the Willard Parker will be repeated about the first of March and the register is now open.

PENNSYLVANIA

Dues Remitted.—The following county medical societies have voted to remit the dues for 1918 of members who are actually in the service of the United States or her allies: Adams, Allegheny, Beaver, Bedford, Berks, Blair, Bradford, Clinton, Crawford, Cumberland, Fayette, Lancaster, Lycoming, Mercer, Northampton, Northumberland, Somerset, Wayne, Wyoming and York.

Personal.—Dr. Thomas Coleman, Pittsburgh, suffered severe injuries to the right knee when he fell on a sidewalk, January 24.——Dr. Roger R. Rupp, Lehighton, has succeeded Dr. John W. Luther, deceased, as chief surgeon of the Palmerton Hospital.——Dr. Roy Deck, Hollidaysburg, was recently wounded while serving with the English army on the western front.——Dr. Fulton R. Stotler, Wilkinsburg, has resigned as a director of the board of education of that place, after a service of twenty-eight years.——Lieut. G. Franklin Bell, M. R. C., U. S. Army, Williamsport, who has been ill at the cantonment camp, Greenville, S. C., is reported to be convalescent.——Major William Knowles Evans, Chester, is now assistant director of the School of Military Hygiene, Camp Greenleaf, Fort Oglethorpe, Ga., of which school Major Alexander C. Abbott is director.

Philadelphia

Penn Medical School and Polyclinic Join.—The filing of a petition for the merger of the Philadelphia Polyclinic and College for Graduates in Medicine with the University of Pennsylvania Medical School is another step taken in the movement to make Pennsylvania a great national, and perhaps international, center for postgraduate medical education in America. The buildings required properly to conduct this work must necessarily await the return of normal conditions, although the university authorities will begin construction work at the very earliest opportunity.

Conference on Infant Conservation.—The Babies' Welfare Association of Philadelphia held a conference on Infant Conservation at the Chamber of Commerce, Widner Building, January 31. Dr. William Duffield Robinson was the presiding officer. The chief topics of discussion were as follows: "The Most Efficient Means for Preventing Infant Mortality," by Mrs. William Lowell Putnam, Boston; "Maternity Insurance," by Dr. Lee K. Frankel, Metropolitan Life Insurance Company; "The Municipal Nurse—the City's Best Investment," by Miss Mary L. Gardner, Washington, D. C.; "Prevention of War Injuries to the Coming Generation," by Mrs. Max West, Washington, D. C.; "Babies and the Rising Cost of Milk," by Prof. Clyde L. King, Pennsylvania, and "What the Babies' Welfare Association Should Mean to Philadelphia," Miss Mary Arnold, New York City.

Officers Elected.—Philadelphia Genito-Urinary Society, January 28: president, Dr. Benjamin A. Thomas; vice president, Dr. Thomas C. Stellwagen, and secretary-treasurer, Dr. William H. Mackinney.——Philadelphia County Medical Society: president, Dr. Frank C. Hammond; vice president, Dr. John W. West; associate vice presidents, North Branch, Dr. Maximilian D. Bloomfield; South Branch, Dr. Edwin S. Cooke; Kensington Branch, Dr. J. Edward Wallis; West Branch, Dr. John W. Croskey; Northeast Branch, Dr. Albert C. Buckley; Southeast Branch, Dr. Charles Mazer; Northwest Branch, Dr. Robert N. Downs; secretary, Dr. William S. Wray; assistant secretary, Dr. Elmer H. Funk; treasurer, Dr. Edward A. Shumway.——Northern Medical Association of Philadelphia: president, Dr. George W. Sholler; vice president, Dr. Irwin S. Meyerhoff; secretary, Dr. Mulford K. Fisher; treasurer, Dr. John W. Millick; corresponding secretary, Dr. Howard D. Geisler.

Personal.—Dr. Robert F. Ridpath has been elected otologist to the Jewish Hospital to succeed Dr. Eli L. Klopp, deceased.——Major W. Wayne Babcock is now chief surgeon and director of the base hospital at Fort McPherson, Ga.——Lieut. James R. Martin has been transferred to the orthopedic service under the direction of Majors Elliott G. Brackett, Boston, and David Silver.——Major Joseph Sailer has been appointed permanent chief of the medical staff at the base hospital at Camp Wheeler, Macon, Ga., succeeding Major Richard Weil, New York, recently deceased.——Drs. Marie K. Formad, Mary Getty and Laura Hunt were the guests of honor at a dinner given by the Woman's Medical College of Philadelphia, just prior to their sailing for France.——Dr. Alice W. Tallant is the representative of fifteen Smith College alumni, who, with a party of American college women, are working in a section of France, comprising fourteen towns.——Dr. Lida Stewart Cogill has charge of the daily clinic at the Woman's College Hospital, where instruction to mothers in the care of their babies is given.

RHODE ISLAND

New Building for Preventorium.—There are at present twenty-nine children in the state preventorium, Hoxsie, and plans are being made for a new building to be used especially for winter work.

Barred from Practice.—Drs. Charles O'Leary, Jr., and William T. Knoop are said to have been found guilty of unprofessional conduct and their licenses to practice medicine in Rhode Island have been revoked by the state board of health.

Personal.—Dr. Joseph M. Bennett, Providence, has been nominated as a member of the state board of health for three years, succeeding Dr. William L. Harris, Providence.——Dr. Eugene P. King, deputy superintendent of the health department of Providence, is ill in the Rhode Island Hospital.

Elections.—Washington County Medical Society at Westerly, January 10: president, Dr. Alexander B. Briggs, Ashaway; vice presidents, Drs. Patrick J. Manning, Wickford, and Henry L. Johnson, Westerly, and secretary-treasurer, Dr. William A. Hillard, Westerly.——Kent County Medical Society at West Greenwich, December 13: president, Dr. H. Barton Bryer, Natick; vice presidents, Dr. Louis J. A. Legris, Phenix; secretary, Dr. James M. Bodwell, Phenix, and treasurer, Dr. Frank B. Smith, Washington.

GENERAL

Information Wanted on Xerostomia.—Dr. Herman Prinz of the Evans Institute of the University of Pennsylvania, wishes to enter into communication with physicians who have had cases of xerostomia (dry mouth) under observation. He may be addressed in care of the Thomas W. Evans Dental Institute, University of Pennsylvania, Philadelphia.

Roentgenologists Meet.—The semiannual meeting of the Western Roentgen Society was held in Chicago, January 24 to 26, and the following officers were elected: president, Dr. Benjamin H. Orndoff, Chicago; vice presidents, Drs. Nelson H. Lowry, Chicago, and Joseph F. Wallace, Woodman, Colo., and secretary-treasurer, Dr. Bundy Allen, Iowa City, Iowa.

Bequests and Donations.—The following bequests and donations have recently been announced:

Mount Sinai Hospital, New York, $100,000; Montefiore Home and United Hebrew Charities, each $25,000; Polyclinic, German, Lebanon, Beth Israel, National Jewish, New York Skin and Cancer, and St. Luke's hospitals, New York Eye and Ear Infirmary, Hebrew Orphan Asylum, Home for the Aged and Infirm Hebrews, and New York Institute for the Blind, each $10,000; Sydenham Hospital and Hospital for Deformities and Joint Diseases, each $5,000, by the will of Emil Wolff.

Ossining, N. Y., Hospital, a donation of $25,000 in liberty bonds, from William Rockefeller, to endow a Mr. and Mrs. Rockefeller Fund for the institution.

Rockefeller Fund Budget.—The first budget of the Rockefeller Fund to be expended this year has been announced. The largest appropriation is $150,000, to be used in welfare work in the military camps. The National Committee for Mental Hygiene is allotted $37,000 for "a survey of public care of mental diseases and study in psychopathology of crime." The State Charities Aid Association is given an appropriation of $65,000 "for public clinics in New York in after-care of infantile paralysis cases." The China Medical Board receives $11,430 to be used within five years in the maintenance of the two hospitals on the Island of Kulangsu, in the harbor of Amoy, China.

National Social Unit Organization.—This organization held its annual meeting in New York at the Hotel McAlpin, January 28. A number of papers were read on social welfare and social organization in furtherance of the "unit plan" of organization, which is described as "a national experiment in democracy." The plan is being carried out practically, it is said, in a district in Cincinnati comprising 15,000 people. In the carrying out of the purposes of the organization, it is said that advice and aid will be furnished by local, city-wide and national groups of physicians, nurses, social workers, public officials, etc. Their aim will be to develop, among groups of seventy-five to 100 families, a democratic block organization, through which the people may study their social needs in the way of medical care, good housing, recreation, and employment, and above all, their health needs, especially those of mothers and babies, together with all other essentials to wholesome living. The officials and advisers of the organization include many well known and distinguished people throughout the United States, who have been interested in sociologic questions and general welfare.

FOREIGN

Clothes Fasteners for the Use of Men Who Have Lost One or Both Arms.—The *Nederlandsch Tijdschrift* says that at Prague there is a button museum which gives a historical oversight of the methods used for fastening the clothing from the earliest times to date. The institution recently advertised that it would give forty-three prizes, ranging from 50 to 1,000 crowns—to a total of 5,000 crowns or about $1,000—for suggestions as to means of closing and fastening the clothing that will be convenient for persons with only one arm or no arms. The museum has also recently distributed a pamphlet illustrating how men thus crippled have succeeded in fastening their clothing. The prize competition is said to be open to persons of all nationalities but the time limit is about complete now. The address is Knopf-Museum Heinrich Waldes, Prag-Wrschowitz.

CORRECTIONS

In the article by L. H. Smith, "The Blood of Workers in Trinitrotoluene," THE JOURNAL, Jan. 26, 1918, page 231, the figures under the heading "For Large Mononuclears and Small Mononuclears" in the table giving the blood findings should be reversed.

In THE JOURNAL, Jan. 26, 1918, page 266, second column, eighteenth line from top, I am reported as saying: "Cesarean section, which I advocated more than fifteen years ago, is now recognized as the proper procedure." What I did say was: "Cesarean section *for placenta previa*, which I advocated more than fifteen years ago, is now the proper procedure in some of these cases." I never endorsed cesarean section for the relief of puerperal eclampsia.—E. GUSTAV ZINKE, M.D., Cincinnati.

PARIS LETTER

PARIS, Jan. 3, 1918.

Treatment of Loose Bodies in the Knee Joint by Arthrotomy

At a recent meeting of the Paris Société de chirurgie, Drs. Willems and de Caestecker of the Belgian army reported five cases of loose bodies in the knee joint removed by arthrotomy, the patients walking immediately after the operation. This method was advocated by Dr. Willems before the war for effusions in joints, after puncture. The technic is very simple: The incision is made on the inner or outer side, according to the location of the loose body. This body is removed and the wound is closed in three layers—the synovial membrane, capsule and skin. A small loose dressing is then applied so as not to hinder the use of the joint. Active mobilization is begun at once. The patient raises the extended leg and alternately flexes and extends it to the extreme limits. The following day, or in some cases on the same day, the patient gets up out of bed and walks without any support. At first the patient is timid and hesitant; therefore, he does not flex the knee while walking; but when he finds that he can walk, and that no pain is caused by walking, he bears down his weight on the leg, and bends the knee, little by little, until in a few days he walks almost normally. The cure is a permanent one. The joint function is restored to the normal and remains so. The muscles are in perfect condition. At no time during the treatment is there any trace of muscle atrophy. The functional cure is so perfect that many of these patients have returned to service in the trenches.

Resection of the Hip for War Wound of the Joint

Dr. Le Für, surgeon of the St. Luke's clinic, reported to the Paris Société des Chirurgiens two cases of resection of the hip for an articular wound, causing a fracture of the neck of the femur and lesions of the head of the bone. In the first case, a bullet entered the thigh and passed through the joint. A purulent arthritis of the hip, of slow development, had put the patient in a very bad general state, suggesting tuberculosis. The resection of the hip terminated the cachexia at once and for all time. In the second case a bullet had passed through the pelvis from left to right, fracturing the neck of the right femur. Considerable suppuration was present, and a sinus had established itself between the intestine and the infection focus. The resection in this case did not cause a disappearance of the bone lesions; therefore the hip was disarticulated, resulting in a speedy and complete cure.

Dr. Le Für recommended the posterior route of approach to the hip in all cases of luxation of the femoral head into the iliac fossa. Continuous extension should be employed to prevent the femur from being pulled upward toward the iliac fossa. This also permits of immobilization in a large plaster cast in such manner that the physiotherapeutic measures needed to insure a sufficiently movable neo-arthrosis may be applied. Resection of the hip is indicated in cases of wounding of the joint when an arthrotomy will not check the infection, and especially when the head and neck of the femur have been severely injured with comminuted fracture plus infection. Dr. Roulland called attention to the fact that one must distinguish between a secondary arthritis of the hip, the result of a para-articular or juxta-articular wound, when the infectious process may remain latent for a long time, and wounds of the joint proper, accompanied by lesions in the femur and the iliac bone, which may easily give rise at once to a severe septicemia. In the severe traumatic cases, only resection provides sufficient drainage; in the cases of secondary arthritis, however, one can perform an arthrotomy, resorting to resection later, if necessary.

The Surgical Congress

The executive committee of the French Association of Surgery has decided that the next annual congress of surgery, which has not been convened since the war began, will be held in Paris, Oct. 7, 1918. The meeting will be devoted to the discussion of war surgery. The subjects listed for discussion are: (1) extraction of intrathoracic projectiles; (2) treatment of and remote results obtained in projectile injuries of nerves, and (3) removal of bone fragments and repair of lost bone tissue. One session will be given over to the demonstration of apparatus. Members desiring to read papers must send the title of such communication to Dr. J. L. Faure, secretary-general, 10 rue de Seine, Paris (VI-e), before July 31, 1918.

Personal

Dr. Tuffier, associate professor in the Faculty of Medicine of Paris, and surgeon to the hospitals, has been made commander of the Legion of Honor, with the following citation: "Surgeon of very high distinction. He has rendered the most eminent services as an instructor and as consulting surgeon to the armies, and has contributed by his untiring activity and his science to the progress of surgery since the beginning of hostilities."

DEATH OF PROFESSOR RENAUT

Dr. J. Renaut, professor of general anatomy and histology in the Faculty of Medicine of Lyons, and physician to the hospitals of Lyons, is dead. He was born in La Haye-Descartes (department of the Indre and Loire) in 1844. He studied medicine in Paris, and was an intern there in 1869. He received his doctorate degree in 1874, publishing a most valuable thesis on the anatomy and clinical history of erysipelas and the edemas of the skin. He was made chief of the medical clinic, then director of the clinical laboratory of the Charité in 1875. In 1877 he accepted the chair of general anatomy and histology at the University of Lyons, and in 1883 he was appointed physician to the hospitals. He has been an associate member of the Academy of Medicine since 1896. Professor Renaut was one of the most noted histologists of the day. In 1888 he published a treatise on practical histology which was an authority on that subject. In 1882, in collaboration with Dr. Chanteluse, he published the works of the Laboratory of General Anatomy and Histology.

DEATH OF DR. DENOIX

Dr. Arnaud Denoix, senator of the department of the Dordogne, is dead, at the age of 69.

War Bread

At a recent meeting of the Academy of Sciences, Dr. Balland presented a communication on this subject. He investigated the cause of the moldiness of bread occurring during the past summer in bread only three or four months old, made from a good flour, well raised and stripped of dark products. The changes are not due to the bolting, which has been maintained at 70 per cent. for the flour used for war bread. War bread should at the time of packing contain from 10 to 12 per cent. of moisture. As a rule, it contains much more, as much as 18 per cent. To avoid this moldiness, Balland recommends that the bread be made up smaller, weighing from 7 to 8 gm., 5 cm. long, 3 cm. wide and 15 mm. thick. These biscuits, about 2 inches by 1 inch in size, when taken out of the oven, should contain only 3 or 4 per cent. of moisture. They will slowly take up moisture, up to 12 or 13 per cent., but only after being stored for a long time.

Association News

THE CHICAGO SESSION

Advisory Committee on Scientific Exhibit

With the purpose of securing desirable material from various sources for the Scientific Exhibit at the coming meeting, an Advisory Committee on Scientific Exhibit has been appointed consisting of Dr. Harlow Brooks, New York; Dr. A. S. Warthin, Ann Arbor, Mich.; Dr. George L. Dock, St. Louis; Dr. L. B. Wilson, Rochester, Minn.; Dr. E. R. LeCount, Chicago; Dr. Oskar Klotz, Pittsburgh; Dr. F. P. Gay, Berkeley, Calif.; Dr. C. C. Bass, New Orleans, La.; Dr. W. M. L. Coplin, Philadelphia; Dr. Joseph C. Bloodgood, Baltimore, and Dr. Walter B. Cannon, Boston.

The Scientific Exhibit will occupy the mezzanine of the Hotel Sherman, which will also be the general headquarters of the Chicago Session. The available space seems ample for all purposes, but in order that it may be arranged to the best advantage and that exhibitors may be given the best facilities for making their demonstrations, it is desirable that the Director of the Scientific Exhibit know early what to expect. Applications should be made as early as possible. Assignment of space will be made Tuesday, April 2, 1918, and all applications must be received before that date.

Application blanks and further details may be secured by addressing Dr. George H. Weaver, Director of Scientific Exhibit, 637 South Wood Street, Chicago.

Deaths

James Wilson Walk, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1878; aged 64; a member of the Medical Society of the State of Pennsylvania, and the American Academy of Medicine; general secretary of the Philadelphia Society for Organizing Charity from 1882 to 1899; a member of the Pennsylvania House of Representatives from 1887 to 1891; director of the Philadelphia City Charities and Collection from 1892 to 1897, and director of health of the city from 1897 to 1899; prominent in charity work and publisher of a monthly journal as exponent of organized charity; died at his home, January 19.

Edmund Burke Thompson, M.D., New York City; New York University, New York City, 1882; aged 58; a Fellow of the American Medical Association; a specialist in mental disease; assistant superintendent of the Northern Hospital for the Insane, Winnebago, Wis., in 1886 and 1887; assistant superintendent of the State Hospital, Independence, Iowa, 1887 to 1890, and of the Topeka (Kan.) State Hospital from 1894 to 1896; for several years attending physician to Bloomingdale Hospital, and assistant physician to Sanford Hall, Flushing; died at his home, January 22.

Lieut.-Col. John D. McCrae, C. A. M. C.; Montreal, Que.; University of Toronto, Ont., 1898; aged 45; lecturer in pathology and internal medicine in McGill University; professor of general and special pathology in the University of Vermont, Burlington; a member of the staff of the Royal Victoria and Alexandria hospitals, Montreal; a veteran of the Boer War, and decorated for gallantry; chief medical officer of Brigadier-General Morrison's command in France; died in France from pneumonia, January 28.

Died in the Service.

CAPT. EDWARD M. SHEEHAN, M. C., N. G., U. S., 1879-1918

(*See The Journal, last week, p. 336*)

John Alexander Gordon, M.D., Quincy, Mass.; Harvard Medical School, 1871; aged 74; a Fellow of the American Medical Association; consulting physician, trustee and chairman of the executive committee of the Quincy City Hospital; from 1872 to 1877 town physician of Quincy, and from 1884 to 1889 chairman of the local board of health; a member of the school board from 1884 to 1894, and for several years president of the Quincy Water Company; died at his home, recently.

Charles Henry Castle, M.D., Avondale, Cincinnati; Miami Medical College, Cincinnati, 1885; aged 57; a Fellow of the American Medical Association; a member of the American Academy of Ophthalmology and Oto-Laryngology, and Cincinnati Academy of Medicine; a specialist on diseases of the eye, ear, nose and throat; at one time editor of the *Cincinnati Lancet-Clinic;* died in the Cincinnati General Hospital, January 21, from asthma.

Albert Kohn, M.D., New York City; College of Physicians and Surgeons in the City of New York, 1891; aged 48; a Fellow of the American Medical Association, and the New York Academy of Medicine, and a member of the New York Pathological Society; formerly adjunct professor of internal medicine in the New York Polyclinic Hospital; a member of the attending staff of Mount Sinai Hospital; died at his home, January 21.

Michael Andrew Bartley, M.D., Columbus, Ohio; Medical College of Ohio, Cincinnati, 1880; aged 62; formerly a Fellow of the American Medical Association; for eleven years a member of the staff of the Columbus State Hospital; for four years physician at the Workhouse, and for eight years city physician; died in Mount Carmel Hospital, Columbus, January 20, a week after an operation for disease of the stomach.

William Nelson Hammond, M.D., Philadelphia; Southern Homeopathic Medical College, Baltimore, 1896; Hahnemann Medical College, Philadelphia, 1904; aged 44; associate professor of surgery in Hahnemann Medical College, and head of the department of orthopedics; chief surgeon of the Merchants Marine Ship Building Company, Bristol, Pa.; died at his home, January 22, from pneumonia.

Francis Willard Nagle, M.D., Montreal, Que.; McGill University, Montreal, 1908; aged 38; president of the American Association of Anesthetists, and anesthetist to the Royal Victoria Hospital, Montreal, and the Montreal Maternity Hospital; died from asphyxiation by gas while working under his automobile, outside of his garage, January 24.

Charles Leonard Wilson, M.D., Indianapolis; Western Reserve University, Cleveland, 1854; aged 86; a specialist in orthopedic surgery; surgeon of the Seventy-Fifth and later of the One Hundred and Forty-First Ohio Volunteer Infantry during the Civil War; died at the home of his sister-in-law in Parkersburg, W. Va., January 18.

John Francis Mohan, M.D., Pittsburgh; Cornell University, New York City, 1903; aged 37; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; president of the Pittsburgh Society of School Medical Inspectors; died in Mercy Hospital, Pittsburgh, January 22.

J. B. Peacock, M.D., Cochran, Ga.; Baltimore Medical College, 1895; for several years president and director of the First National Bank of Cochran, and later a director of the Cochran Banking Company; first mayor of Cochran; died in Hawkinsville, Ga., January 13, from cerebral hemorrhage.

John W. Fay, M.D., Detroit; Castleton (Vt.) Medical College, 1846; aged 94; assistant surgeon of the Seventy-Seventh New York Volunteer Heavy Artillery and Seventh New York Infantry during the Civil War, and for nine months a prisoner in Andersonville; died at his home, January 20.

Ezra G. Cristman, M.D., Spring Green, Wis.; Philadelphia University of Medicine and Surgery, 1867; aged 78; major and surgeon of volunteers during the Civil War; for twenty years local surgeon of the Chicago, Milwaukee and St. Paul Railway; died at his home, January 16.

Levi H. Surber, M.D., Indianola, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1877; aged 67; a member of the Iowa State Medical Society; postmaster of Indianola, under President McKinley; died suddenly, January 21, while making a professional call.

James Lloyd Nickelson, M.D., Richland, N. C.; New York University, New York City, 1875; aged 65; a Fellow of the American Medical Association; for many years a member of the State Board of Medical Examiners; died at his home, about January 21.

Edwin Lawson Farr, M.D., Brookline, Mass.; New York University, New York City, 1873; aged 72; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; died at his home, January 24.

Samuel Boyd Little, M.D., Colbert, Ga.; Southern Medical College, Atlanta, Ga., 1898; aged 47; local surgeon of the Seaboard Air Line Railway; also a druggist; died at his home, January 9, from pneumonia.

John Calvin Albright, M.D., South Amboy, N. J.; New York University, New York City, 1887; aged 59; a Fellow of the American Medical Association; died at his home, January 4.

Harry A. Sellhausen, M.D., Washington, D. C.; George Washington University, Washington, D. C., 1899; aged 43; died at the home of his father-in-law in Brooklyn, January 17.

Napoleon B. Ferguson, M.D., Huntington, W. Va.; American Eclectic Medical College, Cincinnati, 1882; whose license was revoked in 1897; aged 65; died at his home, January 4.

George W. Wesselius, M.D., Grand Rapids, Mich.; Detroit College of Medicine and Surgery, 1882; aged 70; was found dead in his apartments, January 8, from heart disease.

Edward B. Bayliss, M.D., Miamisburg, Ohio; Medical College of Ohio, Cincinnati, 1885; aged 54; an optometrist; died at his home, January 23, from carcinoma of the stomach.

Eugene C. Story, M.D., Olympia, Wash.; University of Michigan, Homeopathic Medical School, Ann Arbor, 1879; aged 62; also a druggist; died at his home, January 8.

Millard F. Welsh, M.D., Columbus, Ohio; Medical College of Ohio; Cincinnati, 1880; aged 63; died in the Protestant Hospital, Columbus, January 12, from heart disease.

Stephen A. Mayfield, M.D., Fornfelt, Mo.; St. Louis College of Physicians and Surgeons, 1901; aged 60; died at his home, December 27, from cerebral hemorrhage.

James T. Van Horne, M.D., Monroe, Ga.; Atlanta (Ga.) Medical College, 1880; aged 66; also a druggist; died at his home, October 7, from cerebral hemorrhage.

Dale Otto Chaloupka, M.D., Lincoln, Neb.; John A. Creighton Medical College, Omaha, 1916; died in Boulder, Colo., October 5, from miliary tuberculosis.

Harry C. Kious, M.D., Columbus, Ohio; Long Island College Hospital, Brooklyn, 1882; aged 62; died at his home, January 10, from cerebral hemorrhage.

Rachel Anna Bryson, M.D., Indianapolis; Physio-Medical College of Indiana, Indianapolis, 1889; aged 65; died at her home, January 14, from heart disease.

Charles H. Johnston, M.D., Chesterton, Ind.; Northwestern University Medical School, Chicago, 1892; aged 50; died in a hospital in Chicago, January 8.

Patrick Henry McKinnie, M.D., Memphis, Tenn.; University of Louisville, Ky., 1880; aged 73; a Confederate veteran; died at his home, January 6.

William J. R. Holmes, M.D., Goderich, Ont.; University of Nashville, Tenn., 1864; aged 75; died at his home, October 14, from cirrhosis of the liver.

Charles More Benham, M.D., Phoenixville, Pa.; Hahnemann Medical College, Philadelphia, 1891; aged 52; died at his home, January 10.

James I. Groover, M.D., Grooverville, Quitman, Ga.; New York University, New York City, 1860; aged 83; died at his home, January 13.

Frederick A. Davis, M.D., New York City; United States Medical College, New York City, 1881; aged 80; died at his home, January 14.

Burton Harry Proctor, M.D., Boston; College of Physicians and Surgeons, Boston, 1915; aged 39; died in Cambridge, Mass., January 14.

John T. Simpson, Tullahoma, Tenn. (license, Tennessee, 1889); aged 61; died at his home, December 24, from cerebral hemorrhage.

Benjamin F. Page, M.D., Littleton, N. H.; University of Vermont, Burlington, 1867; aged 74; died at his home, September 23.

Marriages

LIEUT. SAMUEL THOMAS FORSYTHE, M. R. C., U. S. Army, Minneapolis, on duty at Camp Funston, Kan., to Miss Evelyn Sarah Mills of Minneapolis, at Chicago, December 22.

CAPT. ERNEST M. KERSTEN, M. R. C., U. S. Army, Two Rivers, Wis., on duty at Fort Oglethorpe, Ga., to Miss Anna Blessington Kinzie, at Palestine, Texas, December 28.

HOWARD CROSBY VOORHEES, M.D., New Brunswick, N. J., to Miss Florence M. Ward of Newark, N. J., at Princeton, N. J., January 19.

PHARMACIST CLAUDE C. CANNON, U. S. P. H. S., Washington, D. C., to Miss Conne Johnston, at Columbia, S. C., December 28.

LIEUT. SAMUEL MCCOY SPROAT, M. R. C., U. S. Army, Portola, Calif., to Miss Marjorie Story of Chillicothe, Ohio, November 22.

JOSEPH ALOYSIUS DONOVAN, M.D., Houlton, Maine, to Miss Mary Alice O'Hare of Milton, Mass., in Dorchester, Boston, January 15.

RAYMOND LOVEJOY JOHNSON, M.D., Waycross, Ga., to Miss Martha Maxwell King of Atlanta, Ga., December 12.

BERMAN DUNHAM, M.D., Charlevoix, Mich., to Miss Agnes Borgo of Calumet, Mich., December 27.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE NOSTRUM EVIL IN CANADA

What a Toronto Paper Thinks of It

Toronto *Saturday Night* is a virile weekly that has taken a bold stand on many matters of public interest. It has frequently exposed financial fraud. It espoused the cause of the public recently in connection with a case of profiteering at a time when many newspapers were accepting large advertisements from the concern that was under investigation by a royal commission. In its issue of January 26, its editorial leader was entitled "Away with Quacks and Promoters," which read, in part:

"It is quite probable that the coming session of Parliament will see some radical 'Blue Sky' legislation. It is long over due. If properly framed laws to protect the public against the townsiter and shoe string promoter had been placed on the Statute Books a dozen years ago, and had they been properly enforced, sufficient money would have been saved to the public to have easily taken care of one, if not two, of Sir Thomas White's war loans. Next possibly to the patent medicine faker, who it is to be noted is still going strong, and who certainly should receive due attention in the way of restrictive legislation as a matter of internal economy as well as health, the toy promoter who starts in with a snow ball in the way of capital and ends up with a fortune made up of other people's money, is deserving of the most drastic action on the part of our law givers. . . .

"As to the patent medicine business, why should these people—purveyors of all sorts of 'sure cures'—still be allowed to advertise their trash in the public journals? The False Advertising Bill has pretty well eliminated the cancer 'cure' and the consumption 'cure' from our public journals, but we are still cursed with such things as Nuxated Iron and Tanlac and other 'secret remedies' that the country would be better without. It is not only a case of health saving, but of dollar saving as well. Millions of dollars are expended annually in this country for these cure-alls, and it is not too much to say that every dollar of it is misspent. We have reached a point in our existence when the patent medicine faker is to be eliminated. He has got to go. It is a question of morals, money and health. The nostrum seller is entitled to about as much consideration as an African witch doctor. He lives on the gullibility of the poor, the ignorant, and the sick, and he thrives largely by means of cunningly devised and to a great extent fraudulent advertising. The crepe should shortly be placed on the door of the medical quack, and the sooner the Federal Government takes a hand in his demise the better for the Canadian people."

BASY BREAD

Another Obesity Cure

A physician writes: "Enclosed find a clipping sent me by one of my patients. Can you give me any data on this stuff?" The clipping was an advertisement of the latest thing in "obesity cures," "Basy Bread!" This product is made by an Orange, N. J., concern calling itself the "Doctors' Essential Foods Company." The advertisement read in part:

"Reduce Easily and Naturally. Eat Basy Bread and Grow Thin. 'Three Slices a Day Will Drive the Fat Away.'"

"Basy Bread, the Health Bread, by its chemical action, destroys the fat already accumulated, and drives it out of the body."

"It is unquestionably the safest, sanest, surest most natural and inexpensive method of reducing fat ever conceived."

THE JOURNAL has investigated so many obesity cures that, in spite of the fact that only a few inquiries have been received regarding this product, it seemed worth while to learn something about it. The suggestion in the advertisement was followed and a letter was written asking for information regarding Basy Bread and what it would do. The inquiry brought a circular letter and a twelve page booklet.

From the letter it seems that a complete "course" of Basy Bread treatment for obesity covers a period of fifteen weeks, includes fifteen loaves of Basy Bread and costs the "ridiculously small" sum of $15. Moreover:

"AT THE END OF FIFTEEN WEEKS WE ADVISE HOW TO REMAIN AT NORMAL WEIGHT PERMANENTLY WITHOUT COST OR TROUBLE!"

In these parlous times, when the high cost of living is a problem of no mean proportions, it is surely worth $15 to learn "how to remain at normal weight permanently without cost." But we suspect that this is hardly what the Doctors' Essential Foods Company means.

The booklet is interesting, if not convincing. One gathers from it that every system of flesh reducing except that of the Basy Bread course is futile and trivial. But:

"Our method is easiest, simplest, most natural, most hygienic and pleasantest ever devised.

These superlatives are, in themselves, enough to make the obese clamor for Basy Bread, but when we read further that the "method" calls for "no rule of dieting that either deprives one of dishes that are palatable or for enough to eat to fully appease hunger" and further that "it calls for no different mode of living than to which you are accustomed," the urge becomes irresistible.

According to the manufacturers, Basy Bread is made from coarse ground, hard, whole wheat, preserved and sweetened with ground figs and containing vinegar, salt and water. Dr. Harvey W. Wiley writes that Basy Bread has been analyzed in the laboratory of *Good Housekeeping*, while Prof. Lewis B. Allyn has had the same preparation analyzed in the McClure-Westfield Laboratories. The analyses made in the last named institution compare the findings of the composition of Basy Bread with the average composition of graham bread. Here are the figures:

	Basy Bread	Average Graham Bread
Moisture	37.11%	34.80%
Protein	11.98%	8.93%
Fat	1.09%	2.03%
Ash	2.06%	1.59%
Carbohydrates	47.72%	53.40%
Acidity	7.5	3.5
Calories	1166	1075

The purchaser of Basy Bread finds that, in addition to eating the preparation for which he is paying $1 a loaf, it is also necessary to follow the "Basy Bread Diet." This diet list is, in general, typical of those recommended in the reduction of fat. It calls for a great diminution in the use of most of the common starchy foods (bread, potatoes, etc.), oils and fats and sugars. Here, of course, lies the "joker." It may be remembered that in the trial of the Sargol fraud it was shown that if one followed the diet instructions that came with Sargol and fed the Sargol tablets to the cat, the same results would be attained. So it is with the Basy Bread course.

Dr. Wiley well summed up the case when he wrote: "There is one way in which Basy Bread will reduce, that is, don't eat any of it nor much of any other kind."

CATCHING THEM YOUNG

The Campho-Phenique Concern Seeks the New Fledged Graduate

The secretary of the Harvard University Medical School received from the Campho-Phenique Company of St. Louis a letter that, presumably, has been sent to most of the medical colleges of the country. It read:

"We wish to supply the senior class of all Medical Colleges with physicians samples of CAMPHO-PHENIQUE Liquid and CAMPHO-PHENIQUE Powder, and Ointment for 1918.

"We will thank you very kindly if you will send us a communication stating the number of students in your graduating class, and if possible, we would like the name of each and every student, that we may send him personally a sample of CAMPHO-PHENIQUE. In this way, we are sure the party receives the sample."

Presumably the Campho-Phenique concern believes in following the old advice: Catch 'em young! In this connection it may be well briefly to call to the attention of fourth-year medical students the results of the investigation of the Council on Pharmacy and Chemistry of Campho-Phenique. The Council's findings on Campho-Phenique Liquid were to the effect that the preparation, which was exploited under a false "formula," was, essentially, a solution of camphor and phenol in liquid petrolatum, substances well known in medicine and none of which under its own name has been credited with possessing any superlative virtues. The Council's verdict on Campho-Phenique Powder was that "for all practical purposes it is essentially a camphorated talcum powder" containing, apparently, sufficient camphor and carbolic acid to give the talcum powder an odor. It was further brought out in the Council's report that the Campho-Phenique Company was in effect one of the numerous trade names adopted by one James F. Ballard of St. Louis. Mr. Ballard seems to market a number of "patent medicines," most of them sold direct to the public, but some, as in the case of Campho-Phenique, exploited to the public via the medical profession. "Herbine," a "marvelous preparation" that "puts the liver in healthy condition"; "Ballard's Snow Liniment" that when applied to wounds performs "a perfect cure that leaves no scar"; "Dr. T. L. Stephens' Chemical Eye Salve" which "acts quickly in all cases" and cures "failing vision," are some of the numerous "patent medicines" made and sold by Ballard. "Collins Ague Remedy," "Swaim's Panacea," "Swayne's Panacea" and "Renne's Pain Killing Oil" are four more of Mr. Ballard's products, for each of which he has pleaded guilty in the federal courts to making false and fraudulent claims knowingly and wantonly.[1]

If medical colleges of the better class were turning out graduates today who could be caught by free samples of such nostrums as Campho-Phenique, then, indeed, would the outlook for the future of scientific medicine be a gloomy one. But they are not. The young man or woman who goes out today from a reputable medical college is imbued with the scientific spirit, has developed habits of straight thinking and will not, we believe, be so uncritical as to accept at their face value claims made for nostrums of the Campho-Phenique type.

Correspondence

WAR PROBLEMS AND FOOD

To the Editor:—We are now witnessing one of the greatest races in the whole history of humanity, the race of the United States with Destiny. During the course of the war, we have often heard it said that help came too late—England was too late in Serbia, too late in Gallipoli, and the allied powers were too late in support of Italy. Shall we be too late to bring that help to our associates in this war that is necessary to prevent a German victory? I feel that we shall eventually win this war, but we have many ugly facts to face and face squarely.

One hears it said that food will win the war. How many realize that with food and food alone can we successfully fight the German submarine? The woman in her home can now play a more important part than the soldier in training. The German submarine is an attack on the left flank of the French, British and American lines that stretch from the North Sea to Switzerland, and on the Italian line, which is a continuation of that same western front. If the German submarine succeeds in its purpose, we lose the war. If we fail to send the food, the supplies and the soldiers that are required for the support of the western front, and fail to act promptly, we shall lose the war before we are fairly in it. The submarine must be defeated and defeated absolutely, or America cannot play its part in the war. It is no longer a question of helping the Allies. It is a question of maintaining the Allies in the fight until we can gather the necessary force that is required to smash the western front. Large supplies are in various parts of the world, but they might as well be in the moon, so far as the present shipping facilities are concerned.

1. See THE JOURNAL A. M. A., Feb. 17, 1917, p. 564.

The food of America and of Europe, outside of the Central Empires, has now been pooled in one common pool, on which we must live until the 1918 harvest comes in. And when one realizes that on the 1st of December the last of the surplus wheat was shipped out of this country, and that we can ship from now on only the wheat that we do not actually eat, the gravity of the problem is evident. France has reduced its bread ration; the Italian ration has gone down; England now goes on rations. Russia went down because of food riots and a badly fed army. Italy collapsed in part for the same reason. We cannot run the risk of the same sort of collapse in any more of our allies.

The present fuel situation brings the transportation problem of this country in its relationship to the war clearly to the front. Read what Fuel Administrator Garfield has said: "Ships idle in American ports, quantities of food and supplies absolutely required, in American ships, in American ports that cannot be sent where they are absolutely demanded, because of the fuel shortage." Our whole shipping, small as it is, only 50 to 60 per cent. efficient. What will it profit the American people to pile up manufactured products in the storehouses already full if the western front should crack? The one prime problem before the American people is to hold that western front. We must think of its support in terms of blood and not in terms of money. Our problem now is to send blood or bread. The amount of bread that we send will be a measure of the amount of blood that we must send later.

It is difficult for our American people, with their great surplus of food, to grasp the essential things of starvation. How many American people can understand what starvation is? What it means to the people of Switzerland or Finland or Roumania, to see those about them die because they have no food? That is going on today, and has gone on for many months.

The national government asks of the American people only a few small things, to save wheat, pork products, sugar and fats, and to consume the great abundance of other foods that they have.

No one here would take the bread from the hand of a starving child in northern France or Belgium, and yet the people of California, by the very food they have eaten today, have starved a number of persons to death. Food that has been eaten here cannot be sent abroad. There is only so much food available, and it is not enough. The women of America can fight the submarine by saving the foods that are required to defeat its purpose. Every man, woman and child every day, three times a day, either follows out the program of the national government and fights the kaiser, or by failing to do so definitely contributes to the success of the Central Empires. When we look at the attitude taken by the people of this country on the shortage of sugar, a 30 per cent. shortage of sugar, which affected only one part of our population, we can see how far we are from realizing our responsibility in the war. We are the sugar gluttons of the world, and yet to spare the small amount that would be required to bring the French sugar ration up to a minimum, we find a wave of protest going over the country. If the same thing holds true for wheat and pork products, and continues to be true for sugar, then we shall lose this war, and we shall deserve the humiliation that will come to us.

We must fight the German propaganda, whether it takes the form of an attack on food conservation, or the run on matches or salt, or a sneering reference to drafted men, or a prolonged, fallacious discussion of the terrible situation within the German Empire.

We must realize that we have to win this war with men who are yet in civilian clothes, send them across 3,000 miles of sea in ships that are yet to be built; these ships protected by submarine destroyers that are not yet laid down; armed with guns that are not yet on paper, and manned with crews that are still untrained.

During this whole period while we prepare, we must ask the peoples of France, Italy and England to go on into more years of bloody war. They can continue the task only if they are assured that we will make good.

Talk to the soldier who has been over the top, and you will find that the courage that sends him to his death comes from the sense of support that he feels is back of him. I have talked to such men, and they tell me the thing that made them willing to go forward at a sacrifice, if need be for their country and for their future, was the feeling they had that the hearts of every one of their countrymen beat for them and with them. We have got to make the soldiers of France, of England, of Italy and of our own expeditionary forces feel that the American people are back of them to a man.

Can the morale of these armies be maintained, can they be made to feel that such support is theirs, unless they have the bread and the pork products and the sugar and the fats that they need as a ration? If the American people cannot, out of their great plenty, provide them with these essential foods and get them to the Allied lines in spite of the submarines, they will feel that Germany is right when she states that the American people are bluffers, and that she can win the war before we can prevent it.

The greatest problem before the American people today is to convince the statesmen and peoples of those who fight with us that we mean business, mean to win this war in spite of every obstacle. If they can see and feel us coming, they will hold on, and we can train the men, build the ships and manufacture the guns that are necessary to finally blast the way into Germany.

RAY LYMAN WILBUR, M.D., Palo Alto, Calif.
President, Leland Stanford Junior University.

A WARNING AGAINST OPERATIONS FOR VARICOCELE ON APPLICANTS FOR ENLISTMENT, REGISTRANTS FOR THE SELECTIVE DRAFT, AND SOLDIERS

To the Editor:—Until recently, varicocele disqualified for military service, and many applicants for enlistment in the Army and Navy and for admission to West Point and Annapolis subjected themselves voluntarily to this operation. Now that varicocele does not disqualify, officers and especially enlisted men who complain of discomfort in the groin and testicles during their physical training may be referred to the base hospitals in the various training camps and cantonments, and subjected to an unnecessary operation for varicocele.

The evidence against operation for varicocele, except in selected cases, is based on these facts: The majority of men suffering with this lesion show, after long observation, that the condition as a rule spontaneously disappears. Varicocele is observed most frequently after puberty and before the age of 21, and as a rule it disappears at about the age of 25, and, with few exceptions, before 30.

Those persons who have varicocele and are, in addition, neurasthenics, are rarely relieved of their nervous complaints by the operation for varicocele.

In the excision and ligation of the thin-walled, dilated veins there is always the danger, even when the greatest care is taken, of hemorrhage, which is followed by thrombosis, hematoma and epididymitis. This complication prolongs the period of disability, and in a few cases atrophy of the testicle results.

Even in those cases in which the operation is properly done and when there is little or no swelling of the testicle, or marked thrombosis of the lower stump of veins, a hydrocele may secondarily develop within a few months or years. The resultant hydrocele is much more annoying than the original varicocele.

When the patient has a hernia and varicocele, the danger of epididymitis and atrophy of the testicle and secondary hydrocele is much greater, if the veins are excised when the radical operation for hernia is performed. I am so convinced of this danger that I never excise the veins of the cord in operations for hernia on children, and only in exceptional cases in operations on younger men. I called attention to this in 1899 in a report on 459 cases of operation for hernia and forty-five cases of operation for varicocele (*Johns Hopkins Hospital Reports*, 1899, 7). On a number of occasions since then, I have written to the surgeon-generals of the Army

and Navy, giving the evidence against disqualifying applicants for enlistment because of varicocele, and requiring an operation for their acceptance.

In 109 operations for hernia in which the veins were not excised, there was but one case of marked hematoma with atrophy of the testicle. In this case the veins were injured during the operation, and a huge hematoma developed at once. In this group many of the hernias were large, and the sacs adherent to the veins of the cord.

In sixty-one cases of operation for hernia in which the veins were excised by the older method, atrophy of the testicle took place in nine instances, about 15 per cent. In this older method, not only were the veins of the cord completely excised, but the cord was torn from its vascular bed in the inguinal canal.

In the paper already referred to, I described a method of excising the veins in operations for hernia in which the remainder of the cord is uninjured and its vascular attachments to the inguinal canal remain undisturbed; the cord is not transplanted. There are recorded fifty-three such operations without any recorded case of atrophy.

If we group all these cases of hernia in which the veins were excised, there would be 114, with nine atrophies of the testicle, or almost 8 per cent. No hydrocele was observed after operations for hernia in which the veins were not excised, but there were a number of cases of hydrocele, irrespective of the method of excision of the vein.

In sixteen cases of operation for varicocele, the incision was made through the scrotum. The results after this older method were traced in six cases, with the demonstration of one hydrocele and one atrophy of the testicle. When the veins had been excised by the newer method through an incision in the groin, seventeen out of twenty-nine cases were followed with no atrophy of the testicle, but there were five hydroceles —almost 30 per cent. Hydrocele, therefore, may follow the operation for varicocele even after the most approved method in which after operation there is no swelling of the testicle or thrombosis of the vein.

I trust that all surgeons who read this warning will not operate for varicocele, except in cases in which the huge size of the vein disqualifies the applicant or registrant for military service, or disables the soldier from further military service. From my long experience, I am confident that the number of these cases will be very small.

Unfortunately, my observations on hernia and varicocele since my publication in 1899 cannot be given in the same exact figures. I have ceased to excise veins in operations for hernia, except in a few cases in older men, and rarely now operate for varicocele. I doubt if I average two cases a year. I have not observed a single case of atrophy, but I have observed about the same percentage of hydroceles.

JOHN COLT BLOODGOOD, M.D., Baltimore.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ADMINISTRATION OF SODIUM BICARBONATE

To the Editor:—1. Our later conception of acidosis and allied conditions has made the free use of sodium bicarbonate an even commoner affair than formerly, and I should like to know some of the more elegant methods of administering this valuable drug. Will you suggest one or two?

2. I often wish to give it with a saline laxative; but there seems to be a reaction when it is added to either a solution of magnesium sulphate or the milk of magnesia. Are there reactions such as to render these combinations unwise or useless?

JAMES A. ROLLS, M.D., Santa Fe, N. M.

ANSWER.—1. The taste of sodium bicarbonate is not at all disagreeable, and few patients will object if the required dose is administered dissolved in a convenient quantity of cold water. If the taste is objected to, it may be disguised by dissolving the sodium bicarbonate in carbonated ("syphon") water, or else in ordinary water to which a little sugar and lemon juice have been added (the lemon juice will convert some of the sodium bicarbonate into sodium citrate, but this in the intestine is again converted to the alkaline salt). Sodium bicarbonate may also be prescribed in the form of compressed 5 grain tablets. Though it is better to direct that these be allowed to dissolve in the mouth, in most cases they are swallowed without causing discomfort.

2. When sodium bicarbonate is added to a fairly concentrated solution of magnesium sulphate, a precipitate of magnesium carbonate will form. When sodium bicarbonate is added to milk of magnesia, it is most probable that a reaction occurs forming an insoluble carbonate. The "incompatibility" probably is due to the fact that the fine suspension of magnesium oxid is destroyed and a precipitate of magnesium carbonate produced. It would be better to prescribe the laxative separately from the sodium bicarbonate, or to depend on a preparation of magnesium oxid, such as milk of magnesia, both for its laxative action and its antacid properties. Regarding the use of magnesium oxid, it is stated in Useful Drugs that magnesium oxid is used mostly as an antacid to neutralize excessive acidity in the gastric juice. It is especially suitable for cases of hyperacidity accompanied by constipation. It is preferable in most cases to the carbonates or bicarbonates, because it yields no gas on being neutralized.

THE FILLING OF PRESCRIPTIONS CONTAINING ALCOHOL

To the Editor:—Will you please tell me if it is legal for a druggist in a local option territory, which is St. Joseph County, Mich., to fill a prescription written by a physician, combining alcohol with some other drug than the eight or nine drugs listed in the drug law to be combined with the alcohol? The druggists in our city refuse to fill the following prescription:

℞ Boric acid ..... ℥i
Alcohol ..... ℥vi

They say that it does not come under the drug law. I have been in the habit of using this prescription frequently to apply to the nipples in obstetric cases, and am anxious to know whether it is illegal for them to fill it.

DAVID M. KANE, M.D., Sturgis, Mich.

ANSWER.—As stated in Queries and Minor Notes, THE JOURNAL, Jan. 19, 1918, p. 186, bonded druggists are permitted to fill prescriptions containing pure beverage alcohol, if sufficient drugs are added to prevent the prescription from being used for beverage purposes. The law requires that the druggist who fills the prescription determine whether the latter condition is complied with. In the case of a manufactured formula, as a proprietary medicine, the Revenue Department reserves the right to decide as to the nonbeverage character of the preparation. As the boric acid present would not prevent the use of the mixture as a beverage, the druggist is probably within his rights in refusing to fill the prescription.

AN INCOMPATIBLE PRESCRIPTION

To the Editor:—Kindly let me know through Queries and Minor Notes if the following prescription is incompatible:

℞ Calcined magnesia ..... gr. x
Salol .....
Aspirin ..... āā gr. v

W. J. K., Salina, Kan.

ANSWER.—Yes. In the presence of moisture, calcined magnesia (magnesium oxid) reacts with acetylsalicylic acid to form magnesium acetylsalicylate. This in the presence of moisture is decomposed by magnesium oxid into magnesium salicylate and magnesium acetate. Salol in the presence of moisture will gradually decompose into magnesium salicylate and phenol (or magnesium phenolate).

Punctures in Tent Cloth.—J. L. Guignard, professor of botany at the University of Paris, called attention a while ago to the fact that tent cloth and sail cloth at the time of weaving are liable to contain certain special small molds which lie latent as long as the cloth is dry. Under moist heat they begin to grow and their mycelium and ferments alter the structure of the cloth so that it tears at this point. He never found this combination in cloth from accidental contamination after weaving; the fungus was always in the fibers used in the weaving. Bleaching the cloth destroys these fungi, and he suggests that cloth that is not to be bleached, or the tow before weaving, should be sterilized, preferably with steam. The waterproofing process (soap and copper sulphate) also seems to guarantee against "punctures" in the cloth from this cause.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALASKA: Juneau, March 5. Sec., Dr. L. P. Dawes.
CALIFORNIA: Los Angeles, Feb. 18. Sec., Dr. Charles B. Pinkham, State Capitol, Sacramento.
CONNECTICUT: New Haven, March 12-13. Sec., Dr. Charles A. Tuttle, New Haven.
CONNECTICUT (H): New Haven, March 12. Sec., Dr. E. C. M. Hall, 82 Grand Ave., New Haven, Conn.
KANSAS: Topeka, Feb. 12. Sec., Dr. H. A. Dykes, Lebanon.
MAINE: Portland, March 12-13. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
MASSACHUSETTS: Boston, March 12-14. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.
MISSOURI: St. Louis, March 19-21. Sec., Dr. George H. Jones, Capitol Bldg., Jefferson City.
VERMONT: Burlington, Feb. 12. Sec., Dr. W. Scott Nay, Underhill.

Closer Relationship Between the University of Cincinnati and the Cincinnati General Hospital

The City of Cincinnati, at an election held Nov. 6, 1917, adopted a new city charter, of which Chapters IV and V deal, respectively, with the University of Cincinnati and the municipal hospitals of Cincinnati. These paragraphs are as follows:

IV. UNIVERSITY OF CINCINNATI

The mayor who takes office Jan. 1, 1918, shall appoint the successors to the three directors of the University of Cincinnati, whose terms expire next after the adoption of this charter, to serve, one for a term of nine years, one for a term of eight years, and one for a term of seven years from the day of his appointment and until his successor is appointed and qualified, and shall at the same time appoint the other six persons now directors of the university to serve, one for a term of six years, one for a term of five years, one for a term of four years, one for a term of three years, one for a term of two years, and one for a term of one year from the day of his appointment and until his successor is appointed and qualified; and thereafter as the term of each director expires, the mayor shall appoint one director to serve for a term of nine years and until his successor is appointed and qualified, and shall fill all vacancies in the board for the unexpired terms.

V. HOSPITALS

1. The administrative and executive work of the municipal hospitals shall be controlled and directed by the director of public safety, except as hereinafter stated.

2. The medical work, teaching and nursing in the hospitals shall be controlled and directed by the board of directors of the University of Cincinnati in the manner hereinafter stated.

3. The superintendent of the hospitals shall be appointed by the director of public safety with the approval of the directing medical staff, and shall not be under civil service rules; he shall have authority, with the approval of the director of public safety, to appoint and remove all nonmedical employees, subject at all times to such civil service rules as may apply. He shall be responsible to the director of public safety for the efficient and economical management of the hospitals, and shall be a member of the directing medical staff and secretary of the same.

4. The directing medical staff of the hospitals shall consist of the superintendent, the dean of the medical faculty of the university, and the directors of the service of the several professional departments.

5. The board of directors of the university shall appoint to the directorship of each department of the municipal hospitals a professor from the corresponding department of the university.

6. The appointment of all subordinate members of the medical staff shall be made by the directing medical staff, with the approval of the board of directors of the university.

7. The directing medical staff shall determine the manner in which the medical work and teaching in the hospitals shall be organized and conducted, provided, however, that medical instruction shall be open to the students of any medical college in Cincinnati which is recognized by the State Medical Board of Ohio, or by any licensing authority which shall thereafter be provided by the state of Ohio.

8. There shall be a school of nursing and health under the department of medicine of the University of Cincinnati and a director thereof. The director and faculty of the school of nursing and health shall be appointed by the board of directors of the University of Cincinnati.

9. The director of the school of nursing and health shall be the director of the nursing department of the municipal hospitals, and the other members of the faculty of said school shall be appointed to such supervisory positions in the nursing department of the hospitals as the board of directors of the university shall designate.

Book Notices

THE THYROID GLAND IN HEALTH AND DISEASE. By Robert McCarrison, M.D., D.Sc., F.R.C.P., Lauréat de l'Académie de Médecine, Paris. Cloth. Price, $4. Pp. 286, with 82 illustrations. New York: William Wood & Co., 1917.

The author, a British army surgeon, has had a large experience with diseases of the thyroid among the natives of India, in the goitrous regions of India and Europe, and in the leading clinics of Europe. He has done a great amount of research work, both clinical and experimental, on the thyroid gland, and is familiar with the work of others in this field. Appearing, as it does, when the flower of the profession is either in, or about to enter, Army service, the book makes one think of the excellent work of our own Army surgeons, from Beaumont to Gorgas. The present work adds another creditable achievement of the profession. The style is simple, direct and clear. Nowhere does the author present statements for acceptance without adequate scientific support. When opinion is presented, a logical basis for it is given. American investigators are given due credit for the work done in this field. The work of Kendall, Marine and Lenhart, Gaylord, Carlson and others is especially noted, and orientated with the work and opinions of the author.

The book is divided into three parts. The first discusses the anatomy, histology, physiology and life history of the thyroids and parathyroids. It forms a basis for the experimental and clinical work. This enables one not familiar with the foundations to brush up in the easiest way. The second part discusses the factors that determine the departure of the thyroid and parathyroid glands from health. Under the headings of improper food, residence in insanitary surroundings, influence of bacterial and other toxins, infectious diseases, intestinal toxemias, consanguinity and heredity, psychic influences, and the pathology of the glands, the author presents many interesting and varied conditions as causes of thyroid disturbances. Especial emphasis is laid on the probable infectious nature of diseases of the thyroid. The influence of intestinal stasis and putrefactions is shown, and the beneficial result, on the condition of the thyroid, of Sir Arbuthnot Lane's operation for intestinal stasis is indicated as proof that toxins of putrefactive material may be a direct or exciting cause of thyroid disease. The third part deals with the morbid states of the thyroid. It includes not only goiter and cretinism, but also tetany, myxedema and exophthalmic goiter. The diagnosis and treatment in each case are discussed.

In the present state of our knowledge of the thyroid gland and its diseases, we cannot put a final estimate on the author's presentation; but his impartial and able treatment of the subject is convincing. Exophthalmic goiter and hyperthyrodism are sharply differentiated. The work of Carlson, Rooks and McKee on hyperthyroidism is selected as the most painstaking research on the subject with which the author is acquainted. From this work, he selects loss of weight, gastro-enteritis and diarrhea as the chief symptoms of hyperthyroidism, as against tachycardia, nervousness and exophthalmos as the characteristics of exophthalmic goiter. He finds no evidence that exophthalmic goiter is the result of the flooding of the organism with thyroid substance, as stated by Biedl. In the treatment of exophthalmic goiter, operative interference with the thyroid gland effects nothing that hygienic and medical treatment cannot do, and the statistics of leading surgeons does not justify operation. The author also is convinced, from a study of the literature and from his own observations, that many patients are subjected to partial thyroidectomy who do not have exophthalmic

goiter. He believes that surgery has a rational place in the removal of some of the causes of exophthalmic goiter, as chronic appendicitis, chronic intestinal stagnation, and other infections. In all cases of exophthalmic goiter he urges the use of every method to locate foci of infection and remove them. An appendix gives references to the author's numerous published papers on goiter, the influence of intestinal antiseptics on simple goiter, and a schedule of the more important epidemiologic and experimental researches carried out by the author. The work as a whole is a definite and stimulating contribution to the study of diseases of the thyroid.

Social Medicine, Medical Economics and Miscellany

Public Health Administration in Russia

Russia, with about 180,000,000 inhabitants, 85 per cent. of whom live in the rural districts, has developed a combined system of free medical care and health protection for her rural population to a point which is unique and of which we are only beginning to dream. This is the statement of Prof. C.-E. A. Winslow, professor of public health at the Yale Medical School, and member of the Red Cross Mission to Russia in 1917, who, in *Public Health Reports*, Dec. 28, 1917, gives the history and many details of the public health administration in that country which he studied in the past year during the revolution.

Previous to the creation of the zemstvos in 1864 by Alexander II, hospitals had been established and medicine had developed chiefly in the cities. Thirty-two provincial hospitals with 6,200 beds, and 303 district hospitals with 5,100 beds were turned over to the zemstvos, all in poor condition and badly mismanaged, without adequate provisions for isolation or care of communicable diseases. An effort was begun to give medical service free to the rural inhabitants, and by 1870 the zemstvos had arranged a system of fixed medical districts, each provided with a small hospital and a qualified physician. By 1890 there were 1,422 zemstvo medical districts with 1,068 hospitals of 26,571 beds and 414 dispensaries, and the number of their physicians had increased from 756 to 1,805, and the number of nonmedical assistants from 2,794 to 6,788. The tendency has been to make all hospital and dispensary treatment free, the care of the sick being recognized by the zemstvos as a natural duty of society rather than an act of charity. Thus the public care of patients developed first and preventive work developed as an offshoot, both being now closely related.

The province of Moscow is said to have the most highly developed organization for the promotion of zemstvo medicine. It supports a hospital for every 10,000 to 15,000 inhabitants, each with from twenty to sixty beds, an average of two physicians, two medical assistants and four sister nurses. Each of the larger hospitals assigns a certain number of beds for general use, for communicabe diseases and for maternity cases; each has its dispensary, and all medicines, as well as medical care, are given free; home visits are made only in serious cases. Financial aid is often given to women in childbirth and to invalids unable to go to the hospital. Separate provision is made for mental cases.

For prevention, Moscow province is divided into thirteen sanitary districts, with full time medical supervisors, and assistants, and there is a central statistical division, a laboratory and a vaccine institute. There is also a sanitary council for each district and one for the whole province, with district physicians, factory physician and others, all under the control of the provincial and district zemstvo assemblies, working under a sanitary code which was in force before the revolution.

The province of Saratov is given as an example of a more rural district, where, in 1911, the provincial zemstvo maintained a general hospital of 200 beds and a psychiatric hospital of 460 beds for a population of something over 3,000,000. The district zemstvos maintained 123 medical districts with seventy-eight hospitals and 1,106 beds, or one hospital to 2,525 persons. Each district had its own physician, with feldschers and other medical helpers at fifty-five other points. Clinic cases to the number of 525.9 and resident cases numbering 9.1 per thousand of population were treated, and 33.2 per cent. of the provincial and 31.6 per cent. of the district budgets were appropriated for medicinal and sanitary purposes, amounting to 50 copecks per capita. The regular zemstvo physician had sanitary supervision of his district, to combat epidemics, inspect schools and educate the public in health matters; there was also a sanitary supervisor with laboratory equipment for simple chemical and bacteriologic examinations, and a bureau of vital statistics with power to employ emergency workers in epidemics, etc.

Winslow says that not much progress has been made in general milk supervision, though there are infant welfare stations and milk distribution to a certain extent. Infant mortality has not been reduced much, if any, since statistics have been availabe, except in some of the western provinces, the chief reason for this being poverty and ignorance.

The principal developments of Russian public health have been along medical and bacteriologic lines, in the control of the more acute communicable diseases and in the field of vital statistics. The statistical bureaus of the central council of public heath and of the larger cities are better equipped with funds and with highly trained specialists than our own. The bacteriologic and chemical laboratories are also highly developed and in charge of high grade men with leisure and inclination for productive research. Sanitary engineering is somewhat neglected, but when the time comes its development will be fruitful.

The most important future development of public health in Russia, as elsewhere, Winslow believes, must be along educational lines in venereal diseases, tuberculosis and infant mortality, and the largest single task is the last. The great strategic point in the Russian health situation is the remarkable development of social medicine along curative lines and the close connection between curative and preventive work. The opportunity for developing educational preventive work in connection with such a system is practically unlimited.

The Causation and Prevention of Trinitrotoluene (T. N. T.) Poisoning

A report dealing principally with the work of Dr. Benjamin Moore has recently been published (Special Report Series No. 11, British Medical Research Committee, obtained from T. Fisher Unwin, Ltd., London, W. C., 2). The rapidly increasing use of trinitrotoluene made the question of poisoning arising from it a matter of grave anxiety; and had it not been for the preventive measures, based on previous knowledge and experience of the nearest analogies, which were then promptly advocated by the Home Office, the mortality from this poisoning, which advanced during 1915–1916 until the autumn of 1916, when it reached its greatest height, must have been far higher. In July, 1915, the Home Office had warned the factories that trinitrotoluene might be absorbed through the skin, or by the inhalation of dust and fumes, and had recommended, accordingly, that precautions should be taken against both avenues of entry.

The number of cases of toxic jaundice from trinitrotoluene given in the returns of the Home Office for the months of July and August, 1916, show fifty-three cases, including thirteen deaths, as compared with seventeen cases (seven fatal) in the corresponding months of 1917, though the number of the workers exposed to risk in the present year has been far greater than in 1916.

The immediate and obvious result of trinitrotoluene absorption, whether through the skin or otherwise, is a chemical change in the hemoglobin of the red blood corpuscles and a consequent damage to the oxygen-carrying functions of the blood. This shows itself by a darkening of the blood color and in a pallor or duskiness of the skin with blueness of the lips (cyanosis). These chemical signs are accompanied by symptoms illustrating the deficiency in oxygen transport, and the consequent oxygen famine which is intensified in time of need, as is shown by breathlessness or air hunger on exertion. At least within wide limits, this condition is one from which

the body can readily recover. If the fresh entry of poison is prevented, what is present is eliminated and the red blood corpuscles are rapidly restored by reversed chemical change and by fresh production, or both, to the normal, and this process is greatly aided by access to abundant fresh air.

Cyanosis is an abnormal condition, but by itself it does not kill. The fatal results of trinitrotoluene poisoning have been due to two other pathologic conditions. The most common has been a destruction of liver substance, overcoming the efforts of the body toward repair, and the outward sign of this is given by the escape of bile pigments from the liver to the general system. These pigments give the yellow tinge in the skin and other tissues to which the name "toxic jaundice" of this disease has reference. The second and rarer form of fatal ending has been the so-called aplastic anemia, in which the blood-forming organs fail in function and a progressive loss of the blood elements results. At present both toxic jaundice and aplastic anemia are incurable and rapidly fatal diseases when once established. It is of the highest importance, then, to detect the earliest possible indications of their beginnings, with a view to prevention; and the question of early detection, especially of toxic jaundice cases, has been one of the chief practical problems during the past year.

Cyanosis is the inevitable result of trinitrotoluene poisoning in experimental animals, while toxic effects on the liver have been very rarely produced. In dinitrobenzene poisoning, of which there is long industrial experience, while cyanosis is invariably produced, toxic jaundice is practically unknown. In the trinitrotoluene factories, again, while there have been many cases of severe and prolonged cyanosis on which toxic jaundice has not supervened, many of the most serious cases of toxic jaundice have begun apparently without cyanosis, and it has been specially notable that toxic jaundice has occurred in many, if not in most, cases after a very short period of exposure to risk, and therefore after a necessarily short history of cyanosis.

The report contains an account of prophylactic measures designed to combat trinitrotoluene poisoning. The early detection of cyanosis and the removal of affected persons from exposure are indicated. Adequate ventilation of the factories is, of course, essential; but the prevention of skin absorption through the provision of shell-filling machinery, protective clothing and skin varnishes for the hands appears to be of the greatest importance.

Medicolegal

Leaving Skin Needle in Body of Patient

(Hackler vs. Ingram (Tex), 196 S. W. R. 279)

The Court of Civil Appeals of Texas, in affirming a judgment for $1,000 in favor of plaintiff Ingram, says that he sued defendant Hackler for damages for alleged negligence in leaving a skin needle sewed up in Mrs. Ingram's side when he performed an operation on her, and in subsequently failing to remove it, the needle being removed by another physician about nine months after the operation. It was insisted that there was error in permitting the plaintiff, while testifying as to his wife's affliction, to call it an abscess. But the statement of facts showed that not only this witness, but also his wife, spoke of the place from which the needle was subsequently taken as an abscess, and this without objection, so that the error, if any, would be harmless. However, the witnesses described the place as being a hard lump, showing inflammation, and stated that it, after the needle was removed, discharged pus for several months, and finally burst. The condition was thoroughly described to the jury, and it made little difference what it was termed, though the word "abscess" appeared to the ordinary mind as being properly descriptive of such condition. Neither was there error in the refusal of the trial court to permit evidence of numerous physicians who offered to testify that they had observed Dr. Hackler in operations, and that he was a skilful, competent and careful surgeon. No testimony of incompetency was offered, and the trial court charged the jury that if it should find that Dr. Hackler, in performing the operation on Mrs. Ingram, left a needle in her person, and permitted it to remain, and and that in so doing he failed to exercise "reasonable skill and ordinary care and diligence," and that as a direct and proximate result of such acts the plaintiff's wife was injured, etc., then to find for the plaintiff. The cause of action and recovery was therefore based, as the court of civil appeals conceives it, on negligence and unskilfulness in the performance of the particular operation and subsequent conduct with reference thereto, and this court does not think evidence of general skill and efficiency was admissible. However careful and competent a person may be generally, such fact is no defense to a specific act of negligence. It was urged that the verdict was excessive; and there was considerable expert testimony that a needle of this kind, if it was sterile, which this needle was supposed to be, embedded in the flesh, ought not to be so very painful, and that the wound would heal as soon as the needle was removed; and the defendant's testimony tended to show that a great deal of Mrs. Ingram's suffering was the result of hysteria. But the presence of the continued discolored and protruding lump in the side near the incision, where an operation had been performed on the vital parts of the body, with no satisfactory explanation for its cause, and as time passed not getting apparently better, but worse, was a natural cause for anxiety and worry, and, notwithstanding the testimony of the experts, Mrs. Ingram and her husband testified that she suffered intense pain during this time. The court cannot say that the verdict was excessive.

Not Wilful Refusal to Provide for Child

(Joiner vs. State (Tex.), 196 S. W. R. 523)

The Court of Criminal Appeals of Texas reverses a judgment of conviction of defendant Joiner of violating the statute making it an offense for any parent wilfully or without justification to neglect or refuse to provide for the support and maintenance of his child under 16 years of age in necessitous circumstances. The court says the only question that needed to be passed on was whether the evidence was sufficient to sustain the conviction. The uncontradicted testimony showed that the defendant's child, 4½ years old, was very sick with pneumonia. The defendant and his family were members of a religious order which believed, and he believed, that medicine should not be administered to a sick person, who instead should be treated by praying to God to heal, by bathing the patient with water and oil, and by doing such other things as may be within their power to make the patient comfortable, to relieve pain, and expedite recovery. The defendant practiced this treatment with his child, and, according to his testimony, which was undisputed, he and his wife were doing all they could and all they knew how to do for it. He himself worked in the daytime, and was with his child and family at night. His wife was in constant attendance on the child. But the county and city health officers and the humane officer learned of the serious illness of the child, and commendably took steps to have the child properly treated from their standpoint. When they saw the child and its serious illness they demanded that the defendant should call in a physician to attend and treat it. The defendant at first refused to do this because he claimed that the treatment they were giving the child and their prayers were all that was necessary, and that the child would be cured. Because he refused to call a physician then the defendant was at once arrested and taken to the jail, but not incarcerated. The officers told him that unless he called a physician they would remove the child to a sanatorium and have the proper attention given to it. The defendant thereupon called a physician, who treated the child, and it soon recovered. Persons might differ as to whether or not the defendant's method of treating the child was a proper one, and, of course, no one can know whether the child would have recovered under that treatment or not; but under any phase of the testimony the court thinks it failed to show or to authorize the jury to find that the defendant wilfully or without justification neglected to provide properly for his child. On the contrary, the court thinks it showed that he did not wilfully or without justification fail to provide for

his child in the sense intended by the statute to be made an offense. While he at first refused to call a physician and have his child properly treated, he did so as soon as the county health officers informed him of the serious illness of his child and the necessity for medical attention, and that they would remove the child to a sanatorium, etc. True, even at first when so informed he declined to call a physician, but the testimony showed that he did so very soon, or practically immediately thereafter. The court thinks the evidence excluded the idea of his neglect of his child or failure to provide for it in this respect to such an extent and for such a length of time as would show or justify the jury to find that he did so wilfully.

Society Proceedings

SOUTHERN SURGICAL ASSOCIATION

Thirtieth Annual Meeting, held at St. Augustine, Fla., Dec. 18-20, 1917

(Concluded from page 341)

Subparietal Rupture of the Intestine from Traumatisms to Reducible Inguinal Hernias

DR. RANDOLPH WINSLOW, Baltimore: Subparietal rupture of the intestine is a comparatively rare injury. The symptoms of a subparietal rupture are very similar to those of a penetrating wound or a perforating ulcer of the stomach or intestine. As a subparietal laceration of the small intestine is always fatal, so far as known, when not operated on, it is of the utmost importance that a diagnosis should be made at the earliest possible moment. In any case of doubt it will be safer to open the abdomen and ascertain the extent of the lesions than to wait in the hope that no serious injury has occurred. My attention was directed to the rôle of a hernia in the production of intestinal lacerations by two cases that came under my care. In these cases blows on reducible inguinal hernias were followed by rupture of the intestine.

Treatment of Certain Forms of Subacute Pancreatitis

DR. STEPHEN H. WATTS, Charlottesville, Va.: I have operated in three cases in which a diagnosis of gallstones had been made. Gallstones were found in the gallbladder and a cholecystostomy was done, but the pancreas and peripancreatic tissues were not drained. In all of the cases, fat necroses were found in the omental fat or in the fat about the pancreas, and the pancreas itself was somewhat—in fact, in one case markedly—thickened and indurated, but the outlines of the pancreas were fairly well defined. The condition, except for the fat necroses, suggested a chronic pancreatitis; the organ, therefore, was not drained. One of these patients recovered and was in good condition when seen a year after the operation. The other two died, the one nine, the other sixteen days after operation. Necropsies revealed extensive necroses of the head of the pancreas in both cases, and in one there was extensive hemorrhage in the tissues about the pancreas. I believe that if pancreatic drainage had been instituted in these cases, the result might have been different.

DISCUSSION

DR. F. W. DU BOSE, Selma, Ala.: A negress was sent to the infirmary with a diagnosis of enormous fibroid tumor. An assistant made the examination. On opening the abdomen I saw this enormous tumor with the stomach and duodenum spread out over it and densely and closely adherent to it. It was a pancreatic tumor, involving practically all of the pancreas, except the distal 3½ to 4 inches. The tumor was removed, and the distal end of the pancreas was stuck into the duodenum, a double row of sutures being used. We resorted to hypodermoclysis, and as soon as the operation was finished we gave an intravenous transfusion. The tumor was a sarcoma of the pancreas, globular in form, and measured about 15 inches in diameter. The woman died seven or eight hours after the operation.

DR. ALEXIUS MCGLANNAN, Baltimore: If we will do as Dr. Watts recommends, and in addition to draining the gallbladder establish direct drainage of the pancreas, we shall provide an exit for the toxic material which forms, and give the patient an opportunity to recover rather than to absorb these toxins and die from a fulminating acute pancreatitis.

DR. LEWIS C. MORRIS, Birmingham, Ala.: About fifteen years ago I operated in a case in which there was marked enlargement of the head of the pancreas associated with stones in the gallbladder. The induration and enlargement were so great that I felt it was definitely a case of malignancy of the pancreas. I removed the stones and made an effort to get a specimen from the head of the pancreas for pathologic examination, and in so doing a rent was made in the portal vein. The vein was clamped and tied off, but no furtheer effort was made to secure a specimen for examination. The woman made a good hospital recovery and went home with the prognosis that death would probably ensue within a year or more. Two years ago I saw her alive and well. Her case was one of chronic pancreatitis secondary to an inflammatory condition of the liver, gallbladder and liver duct.

DR. GEORGE A. HENDON, Louisville, Ky.: I should like to ask Dr. Watts whether or not in the cases in which he operated there existed a cholecystitis or cholelithiasis.

DR. JOSEPH RANSOHOFF, Cincinnati: It is not good surgery to remove a piece of the pancreas for pathologic examination unless the tumor is limited. The smallest kind of wound of the pancreas is apt to bring about, by reason of autodigestion, an enormous amount of damage. I know of no way of diagnosing acute pancreatitis before operation. If an acute case has gone on to suppuration or abscess formation, if the case is not one of hyperpancreatitis, it is possible to make a diagnosis.

DR. S. E. WATTS, Charlottesville, Va.: In all of the three cases of subacute pancreatitis I found gallstones.

WESTERN SURGICAL ASSOCIATION

Twenty-Seventh Annual Meeting, held at Omaha, Dec. 14 and 15, 1917

(Concluded from page 342)

The Extreme Pendulous Abdomen and Its Surgical Treatment by a New Three Flap Operation

DR. NEIL JOHN MACLEAN, Winnipeg, Manit.: The procedure that I have called the three flap operation is, I believe, the method of choice when operative treatment is undertaken in the case of extreme pendulous abdomen. Two long incisions forming an ellipse are made from one side of the abdomen to the other, the upper passing above the umbilicus, the lower passing about 2 inches above the fold where the abdomen hangs over the pubes. The skin and fat are dissected away from the external oblique aponeurosis until the ring of the umbilicus is met. The abdomen is then opened at the umbilicus, and the mass dissected away from the umbilical ring. The part of the abdominal wall that has given way can be lifted up in the form of a cone with the umbilicus forming the apex. Two lateral incisions are now made from the umbilical ring to the inner margins of the rectus muscles. A third incision is made from the umbilical ring downward to the firm lower margin of the internal ring, where the rectus muscles decussate. Three flaps are thus formed, two lower and one upper. The lower two flaps are overlapped from side to side, thus reducing by one half the space between the rectus muscles. The free margin of each flap is stitched with strong chromic catgut to the firm margin of the sheath of the opposite rectus muscle. The upper flap is drawn upward, and the upper margin of this lower and now double flap is stitched to the upper margin of the so-called internal ring. The upper flap is next drawn downward and spread over the lower double flap, and its margin stitched to the aponeurosis of the external oblique. The skin is closed and three small drain tubes are inserted, one at each angle and one in the center of the wound. In the place of the relaxed wall we have now a threefold aponeurosis covering the opening and secured at every point to normal anatomic structures that have not yielded to the intra-abdominal pressure.

Supernumerary and Single Ureters Opening Extravesically

DR. E. STARR JUDD, Rochester, Minn.: I had two cases, one in which a single ureter opened into the urethra, and one in which the supernumerary ureter opened into the vagina. Under ordinary circumstances the procedure of choice is the abdominal extraperitoneal implantation of the abnormal ureter. We did this very satisfactorily in our second case in spite of the fact that there was considerable infection in the ureter at the time. In the abdominal operation the technic is more accurate and the implantation can be made with a better chance of preserving the lumen of the ureter, and therefore the function of the kidney. That ureters transplanted in this manner will continue to functionate and maintain a normal kidney function over a number of years, we have sufficient evidence. We recently examined two cases in which the ureter was transplanted four years ago, and in both instances the adjoining kidney was practically normal. In our two cases, incontinence was relieved immediately and relief has been permanent.

Further Experience in the Use of Ether in Peritonitis and Other Infections

DR. W. D. HAINES, Cincinnati: For the past two and a half years my assistants and I have used ether intraperitoneally in all patients suffering of peritonitis coming to operation, a total of sixty-six cases with seven deaths, or a mortality of 10.4 per cent. for the entire series. This includes gastro-intestinal perforations from diseases, gunfire and stab wounds, abortion, leaking pus tubes and tuberculous peritonitis. In a fair percentage of the cases, primary union was obtained throughout the line of incision, and the patients recovered without going through the process of sloughing of the abdominal wall, frequent dressings, prolonged stay in the hospital, postoperative hernia and morbidity so frequently encountered in this type of infection.

Gunshot Wound of the Cervical Spine

DR. CARL E. BLACK, Jacksonville, Ill.: July 30, 1917, a boy, aged 2½ years, was brought to the hospital suffering from a gunshot wound of the cervical spine. The child had been in perfect health. The ball from a 22-caliber revolver had been accidentally discharged, and the ball had entered through the left upper lip, carried away the teeth from the left upper jaw, pierced through the pillar of the fauces, entered the posterior pillar of the pharynx, and lodged in the vertebral column a little to the left of the median line. The track throughout could be followed by inspection; and from the general direction of the ball and from the roentgenograms, I judged that it was lodged in the body of the axis. There was no paralysis, anesthesia or other evidence of direct pressure on the cord, and it seemed fair to assume that the ball had not entered the spinal canal or pushed bone in that direction far enough to cause pressure. The head was held rigid with the face rotated to the right, and any effort to turn the head or move the body gave pain and caused an outcry. The child was given an anesthetic, and the track followed with a probe until the foreign body could be felt embedded in the bone. It was dislodged by cutting away a bit of the bone around it, and with a pair of sharp pointed toothed forceps was loosened from its bed and extracted, leaving a deep cavity in the bone. In the bottom of the cavity something different from the surrounding structure could be felt with a probe. The bony opening was enlarged a little more until the point of the forceps could be introduced to the bottom, and a half of the tooth was extracted that had been carried in in front of the ball. The vertebral canal had not been entered. No opening could be found. Because of the pain on motion and extent of the trauma, the upper part of the trunk, neck and head were placed in a plaster cast in order to maintain perfect immobilization and to prevent the possibility of further injury. There was a considerable febrile reaction with nausea and vomiting, and there were other evidences of shock which were prolonged and which disappeared slowly. There was great physical and mental fear of movement. Recovery was slow, but seems to have been complete, and roentgenograms made nearly six months after the injury show the spinal column to be in good condition.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Public Health, Boston

December, 1917, 7, No. 12

1 *Acute Contagious Disease in French Army. E. Rist.—p. 981.
2 Work of U. S. P. H. Service in Relation to Present War. J. W. Trask, Washington, D. C.—p. 987.
3 Results of Studies on Epidemic Poliomyelitis. E. C. Rosenow, Rochester, Minn.—p. 994.
4 Evolution of County Health Work. W. S. Rankin, Raleigh, N. C.—p. 998.
5 Determination of Ice Cream as Factor in Spread of Typhoid Infection. L. L. Lumsden, Washington, D. C.—p. 1005.
6 Bacterial Changes in Uniced Specimens of Water, Container for Transportation of Iced Specimens. H. Albert, J. J. Hinman, Jr., and G. Jordan, Iowa City, Ia.—p. 1010.
7 Comparability—Will-O'-the-Wisp of Cause of Death Statistics. G. H. Van Buren, New York.—p. 1016.
8 Housekeeping and Public Health. M. Talbot, Chicago.—p. 1026.
9 Specificity of Disinfectants and Its Bearing on Their Standardization. A. L. Walters, Indianapolis.—p. 1030.
10 *Patent Medicine Situation. J. P. Street, New Haven, Conn.—p. 1037.
11 Simple Medium for Differentiation of Members of Typhoid, Paratyphoid Group. I. J. Kligler, New York.—p. 1042.
12 Method of Isolating and Identifying Bacillus Coli Used at Cincinnati Filtration Plant. S. J. Hauser, Cincinnati.—p. 1050.

1. Acute Contagious Diseases in French Army.—During the whole course of the war, there have been only two cases of smallpox in the French army, and not more than fifty in the civilian population. From Jan. 1, 1915, to Dec. 31, 1916, there were only 193 deaths from dysentery. There has not been a single case of typhus or cholera in the French army in spite of the fact that these diseases are endemic in Morocco and Corfu from where many of the French troops have come. Uncinariasis is endemic in the native population of French Indo-China. Many ten thousands of Indo-Chinese have been imported into France since the beginning of the war, to do work in the ammunition factories and in the hospitals. They have been so carefully selected, examined, and, when necessary, treated, that there has not been a single case of uncinariasis in France.

The only tropical disease which has been imported into France so far, is amebic dysentery. It had been overlooked at the beginning, when North African troops contaminated quite a number of men in some French units. Now the carriers are very carefully searched after, segregated and treated, and there is no further extension of the disease. As regards communicable infectious diseases, there has been a steady decrease in number of cases and mortality, due particularly to the reduction in the number of typhoid cases. When the war began, a small number of soldiers actually in training had been vaccinated against typhoid. The 2½ million men who were not in actual training when the war began had not been vaccinated. But by the end of 1915, more than 80 per cent. of the army had been vaccinated. At the same time, other prophylactic measures had been taken: The drinking water problem had been solved, the disposal of fecal matter had been provided for, the general sanitary condition of the trenches and cantonments had been much improved. Carriers had been searched for—at least in some instances—and isolated. The combined effect of those measures with vaccination was that considerable decrease of cases from 5,587.8 monthly to 1,040.1, or, to put it more strikingly, from 13,993 in January, 1915, to 323 in December, 1916.

10. Patent Medicine Situation.—Street reviews the operation of the Federal Food and Drugs Act and the Sherley amendment and directs attention to the requirements drawn up by the National Vigilance Committee of the Associated Advertising Clubs of the World. In brief, these are as follows: 1. The medicine must be appropriate for the particular affection for which it is recommended and must not affect unfavorably the course of the disease. 2. The remedy must not be named or advertised in a way to conceal its proprietary character. 3. The remedy should be offered through the regular wholesale or retail channels of trade, and not directly to the purchaser from the manufacturer. 4. If the prepara-

tion contains alcohol, it must be sufficiently medicated to prevent its use as an alcoholic beverage, and the proportion of alcohol should be no greater than that needed to hold permanently in solution the essential active ingredients of the preparation. 5. If the preparation is one which may be taken internally it must not contain cocain, nor opium or any of its alkaloids, in greater proportion than those specified in the Harrison Act. 6. No children's remedy shall contain cocain, or opium or its alkaloids, or their derivatives, in any proportion whatever. 7. If the preparation is one which may occasion injury through misuse, proper warning against such use must be given on the label. 8. The preparation must not be intended for use as an abortifacient nor for any other immoral or illegal purpose, nor must it be advertised directly or indirectly for such a purpose. 9. The preparation must not be advertised or recommended, directly or by inference, as a cure for the diseases or conditions generally recognized as incurable by the simple administration of drugs, or for the cure of contagious diseases or those sufficiently acute to require skilled treatment. 10. The preparation must be in strict conformance with the Sherley Amendment. 11. Advertising not accompanying the package shall conform substantially to the statements on the label, carton or accompanying circular as to origin, composition, character and curative value.

American Review of Tuberculosis, Baltimore

January, 1918, **1**, No. 11

13 *Importance of Prolonged Bed Rest in Treatment of Pulmonary Tuberculosis. J. H. Pratt, Boston.—p. 637.
14 *Comparison Between Skin Tests, Using Various Tuberculosis Antigens, and Complement Fixation Phenomenon. F. W. Wittich, Minneapolis.—p. 654.
15 *Are Sanatoriums Worth While? B. W. Billings and J. B. Hawes, 2nd Boston.—p. 663.
16 *Tuberculosis Preventorium for Infants in Farmingdale. A. F. Hess, New York.—p. 669.
17 *Animal Experiments in Immunity and Treatment of Tuberculosis with Cell Poison Obtained from Sputum. W. B. Howes, Rutland, Mass.—p. 674.

13. **Bed Rest in Treatment of Tuberculosis.**—Pratt's observations were made on three types of cases: (1) the sick poor; (2) private patients treated in their homes; (3) private patients treated in a small sanatorium at Lunenburg, Mass. Keeping the lungs at rest in order to promote healing is the basis of the rest treatment. Absolute rest for the lungs is, of course, impossible but rest to the body and rest to the mind greatly lessens the work of the lungs and diminishes the blood flow through them. It takes a long time for firm scar tissue to form; hence, according to the severity and extent of the disease, months or years must elapse after the development of a fresh tuberculous process before pulmonary exercise can be taken without danger. Injury from exercise cannot always be detected, no matter how careful is the supervision, until it is too late to prevent renewed activity in the diseased area or a spread of the disease to other parts of the body. Herein lies the greatest danger from exercise in tuberculosis. This tendency of the disease to "light up" without warning furnishes an additional reason for a long continued period of rest until sufficient time has elapsed for the defense wall of scar tissue to become thick enough to protect the human host against the tubercle bacillus.

The bed should be placed outdoors, and, if necessary, a porch should be constructed. The meals are eaten in bed. In cold weather the bed is rolled into a warm room adjoining the porch at meal time. The morning bath is given by a nurse or attendant. Most of Pratt's patients have been kept in the recumbent position, but it is possible that a semi-recumbent position is preferable, as it has been shown that the gaseous metabolism is lower, and that there is less inspiratory widening of the thorax, especially of the lower ribs. The patient should lie chiefly on the side of the chest that is most diseased. The placing of a small, firm pillow under the dependent side, as advocated by Webb, will aid in keeping the lung at rest. There should be mental as well as physical rest. The fewer the visitors the better. All excitement should be avoided, and talking restricted. The amount of reading should be limited, and little writing allowed. Games and knitting are forbidden, except as recognized forms of exercise after the initial period of strict bed rest. Coughing is injurious, but rest has proved so effective in favorable cases that Pratt has made little use of drugs. This investigation shows that the failure to cure pulmonary tuberculosis is not due to the incurability of the disease but to the fact that the proper treatment has not been employed. Tuberculosis can be cured in and out of sanatoriums in a larger proportion of cases by the strict rest treatment. As the most complete rest can be obtained only in bed, clearly bed rest outdoors should yield a larger percentage of recoveries in a shorter period of time than any other known method. The results published in this report confirm these statements.

14. **Skin Tests and Complement Fixation in Tuberculosis.**—Wittich is doubtful of the specific value when either the skin or hemolytic tests are done alone so far as differentiating between infection and disease, but when done together they are of value and furnish valuable confirmatory data to the other findings. Whether there is any relationship between the skin and fixation tests in certain stages of the disease and with certain antigens Wittich is not prepared to say but his results tend to show that there is.

15. **Are Sanatoriums Worth While?**—This paper is based on an examination of the present condition of 1,056 patients discharged from the Massachusetts state sanatoriums at North Reading, Lakeville, Westfield and Rutland during the two years from May 1, 1912, to May 1, 1914. The study shows that sanatoriums are distinctly worth while and should be encouraged in every way, but that some system whereby patients can be looked up, visited, and advised after their discharge, is an essential part of sanatorium treatment. The patient discharged with his disease "arrested" or "quiescent" does not always realize how temporary this may be or how slim his margin of safety.

16. **Tuberculosis Preventorium for Infants.**—Two years' experience has convinced Hess that it is quite possible to save the infants of tuberculous mothers.

17. **Animal Experience with Cell Poison from Sputum.**—The results of some of Howes' experiments suggested a possible beneficial action of cell poison in supporting the combating forces. Cell poison in small repeated doses and in large doses had similar deleterious effects on control pigs. The results of these experiments at least warrant a more thorough investigation, especially of the therapeutic value of cell poison obtained from sputum.

Annals of Otology, Rhinology and Laryngology, St. Louis

September, 1917, **26**, No. 3

18 Wax Model of Nasal Cavity and Paranasal Sinuses. C. M. Jackson and C. E. Connor, Minneapolis.—p. 585.
19 Closure of Obstinate Openings of Drumhead. F. Allport, Chicago.—p. 617.
20 Case of Coexistent Carcinoma, Tuberculosis and Syphilis of Esophagus. L. W. Dean, and J. B. Gregg, Iowa City.—p. 619.
21 Stereoscopic Roentgenograms of Head. J. M. Ingersoll, Cleveland. p. 637.
22 Voice Production from Standpoint of Laryngologist. H. P. Howell, New York.—p. 643.
23 Intranasal Drainage of Frontal Sinus. E. F. Ingals, Chicago. —p. 656.
24 Primary Diseases of Labyrinth as Result of Focal Infection. G. E. Shambaugh, Chicago.—p. 685.
25 Static Labyrinth in Syphilis. J. W. Downey, Jr., Baltimore.—p. 693.
26 *Serial Frozen Sections of Thorax from Case of Aneurysm of Aortic Arch. G. Fetterolf and G. W. Norris, Philadelphia. —p. 711.
27 Value of Galvanic Method of Testing Functions of Inner Ear and Eighth Nerve. G. W. Mackenzie, Philadelphia.—p. 733.
28 Cases of Hemorrhagic Mastoiditis. G. W. Boot, Chicago.—p. 744.
29 Hemorrhage in Rhinolaryngologic Work. A. M. Corwin, Chicago. —p. 749.
30 Subperiosteal Abscess of Mastoid Cure by Paracentesis. S. Salinger, Chicago.—p. 758.
31 Foreign Bodies in Esophagus; Analysis of Fifty Cases. S. A. Friedberg, Chicago.—p. 768.
32 Case of Nasal Sarcoma Cured by Radium. O. J. Stein, Chicago. —p. 782.
33 Perisinus Abscess; Extensive Thrombosis; Multiple Metastatic Abscesses; Jugulectomy; Recovery. O. Glogau, New York. —p. 788.
34 Suspension Laryngoscopy. H. L. Pollock, Chicago.—p. 793.
35 Diagnosis of Cerebellar Disease; Report of Two Cases. E. J. Bernstein, Detroit.—p. 804.

26. **Aneurysm of Arch of Aorta.**—Photographs of the patient were obtained at various periods during life and showed successive steps in the growth of the protruding mass. Frozen sections were made of this case which had had careful clinical study, and as a result conditions as they had existed in vivo could be reproduced accurately and deliberately studied after death. Search of the literature reveals the fact that this is the first opportunity of this kind which has arisen and of which advantage has been taken. The exact site of rupture, and the cause and mode of death could be determined and depicted with a degree of accuracy, certainty and detail which would be impossible of attainment in an ordinary necropsy. The hydrothorax, the pulmonary atelectasis, and the extreme dyspnea are explained in a manner which by any other method of study would have been much less satisfactory, if at all possible. The last statement is equally true of the anatomic relations. The altered position and general changes in the bronchial tree and other thoracic contents are depicted in such a graphic manner as to show to the laryngologist and internist alike what does take place in the presence of such a lesion as this large aneurysm. It also suggests what may take place in future clinical cases in the presence of other disturbers of the normal intrathoracic relations.

Boston Medical and Surgical Journal

Jan. 17, 1918, **178**, No. 3

36 Roentgen Rays in Phthisis. G. W. Holmes, Boston.—p. 71.
37 Obstetrics. R. L. DeNormandie, Boston.—p. 76.
38 Focal Infection and Rheumatism. W. E. Preble, Boston.—p. 82.
39 Causes and Treatment of Chronic Hyperacidity, Heartburn and Sour Regurgitation. L. Fischbein, Boston.—p. 86.
40 Artificial Pneumothorax. H. F. Gammons, Carlsbad, Texas.—p. 90.
41 Lipoids in One Hundred and Thirty-One Diabetic Bloods. H. Gray, Boston.—p. 91. To be continued.

Illinois Medical Journal, Chicago

January, 1918, **32**, No. 1

42 Double, Recurrent and Bilateral Tubal Pregnancies. A. P. Heineck, Chicago.—p. 1.
43 Epidemiology of Poliomyelitis. A. Strauch, Chicago.—p. 7.
44 Early Symptoms and Diagnosis of Poliomyelitis. E. K. Armstrong, Chicago.—p. 11.
45 Prognosis of Infantile Paralysis. F. D. Francis, Chicago.—p. 15.
46 Poliomyelitis. C. W. East, Evanston.—p. 18.
47 Postoperative Treatment of Surgical Cases. A. J. Ochsner, Chicago.—p. 20.
48 Pseudo-Appendicitis Uncovered. W. F. Grinstead, Cairo.—p. 21.
49 War Work of American Medical Women. E. M. Mosher, Brooklyn.—p. 23.
50 Radium. C. W. Hanford, Chicago.—p. 26.
51 Bedside Blood Counts. A. Gehrmann, Chicago.—p. 30.
52 Garden Work for Women in Public Institutions. I. M. Davenport, Chicago.—p. 32.
53 Compulsory Health Insurance. L. P. Kuhn, Chicago.—p. 36.
54 Are Our Present Methods of Combating Pulmonary Tuberculosis Equal to Task? J. L. Jacque, Chicago.—p. 41.
55 Medical Officer with National Army. P. J. H. Farrell, Chicago.—p. 46.
56 Causes of Insanity and Relation of Family Physician to Patient. J. T. Rooks, Kankakee.—p. 48.

Journal of Biological Chemistry, Baltimore

January, 1918, **33**, No. 1

57 *New Method for Detection of Occult Blood in Stools. W. G. Lyle and L. J. Curtman, New York.—p. 1.
58 *Proteins of Cow's Milk. T. B. Osborne and A. J. Wakeman, New Haven, Conn.—p. 7.
59 New Hydrogen Electrode for Electrometric Titration of Alkaline Reserve of Blood Plasma and other Frothing Fluids. J. F. McClendon, Minneapolis.—p. 19.
60 Applications of Gas Analysis: IV. Haldane Gas Analyzer. Y. Henderson, New Haven, Conn.—p. 31.
61 Id. V. Blood Gas Analysis. Y. Henderson and A. H. Smith, New Haven, Conn.—p. 39.
62 Id. VI. Respiratory Exchange and Indirect Calorimetry. Y. Henderson, New Haven, Conn.—p. 47.
63 Study of Dietary Essential, Water Soluble B, in Relation to Its Solubility and Stability Toward Reagents. E. V. McCollum and N. Simmonds, Madison, Wis.—p. 55.
64 Effects of Diet on Plasma Chlorids and Chlorid Excretion in Dog. J. H. Austin and L. Jones, Philadelphia.—p. 91.
65 Studies of Acid Production. Mineral Loss During Acidosis. M. Sawyer, L. Baumann and F. Stevens, Iowa City, Iowa.—p. 103.
66 Lecithin. Hydrolecithin and Its Bearing on Constitution of Cephalin. P. A. Levene and C. J. West, New York.—p. 111.
67 *Colorimetric Determination of Hemoglobin. W. W. Palmer, New York.—p. 119.
68 Gasometric Determination of Oxygen and Hemoglobin of Blood. D. D. Van Slyke, New York.—p. 127.
69 Studies of Oxygen in Venous Blood. Technic and Results on Normal Individuals. C. Lundsgaard, New York.—p. 133.
70 Adenin and Guanin in Cow's Milk. C. Voegtlin and C. P. Sherwin, Washington, D. C.—p. 145.
71 Nutritive Properties of Kafirin. A. G. Hogan.—p. 151.
72 Occurrence of Lichenase in Digestive Tract of Invertebrates. M. E. Jewell and H. B. Lewis, Urbana, Ill.—p. 161.
73 Amount and Distribution of Creatinin and Creatin in Normal Human Blood. A. Hunter and W. R. Campbell, Toronto, Canada.—p. 169.
74 *Influence of Thyroid Feeding on Carbohydrate Metabolism. Storage and Mobilization of Liver Glycogen in Thyroid Fed Animals. S. Kuriyama, New Haven, Conn.—p. 193.
75 *Id. Epinephrin Content of Suprarenals of Thyroid Fed Rats. S. Kuriyama, New Haven, Conn.—p. 207.
76 Id. Acidosis in Experimental Hyperthyroidism and Its Relation to Epinephrin in Blood and Decrease of Liver Glycogen. S. Kuriyama, New Haven, Conn.—p. 215.
77 Structure of Yeast Nucleic Acid. Uridinephosphoric Acid. P. A. Levene, New York.—p. 229.
78 Determination of Sodium and Potassium. F. H. McCrudden and C. S. Sargent, Boston.—p. 235.

57. **Detecting Occult Blood in Stools.**—The method described by Lyle and Curtman was used in the examination of over 500 stools tested for occult blood with satisfactory results. The following procedure was adopted: Approximately 10 gm. of the stool are transferred to a beaker, 25 c.c. of distilled water are added, and the mixture is stirred until of uniform consistency. Over a low flame the mixture is heated, with constant stirring, to boiling and kept at the boiling temperature for several minutes. After cooling, one half of the mixture is transferred to a glass-stoppered bottle at 80 c.c. capacity, 5 c.c. of glacial acetic acid and 25 c.c. of ether are added and the mixture is thoroughly shaken and allowed to stand for several minutes. In a test tube, 2 c.c. of the ether extract are treated with 0.5 c.c. (1:60) of a preparation of guaiaconic acid, made by the authors from gum guaiac, and finally 1 to 5 drops of 30 per cent. perhydrol are added slowly from a pipet. A decided green, light or dark blue, or purple color indicate the presence of blood in quantity to be of clinical significance.

58. **Proteins of Cow's Milk.**—From the alcoholic washings of large quantities of casein Osborne and Wakeman have isolated several hundred grams of a protein which closely resembles gliadin of wheat in its solubility in alcohol of 50 to 80 per cent. Although the actual amount of this protein in milk is extremely small, the large quantity obtained as a by-product from the necessary processes incident to the authors' feeding experiments seemed to justify a special investigation of its physicial and chemical peculiarities. The results of this investigation have shown that this protein is an original constituent of milk and not a derivative of any of the other proteins contained therein. Since preparations have been obtained so far free from each of the other milk proteins that no evidence of such contamination could be detected by the anaphylaxis reaction, the authors feel justified in regarding it as a new constituent of milk.

67. **Colorimeteric Determination of Hemoglobin.**—The method described by Palmer for the determination of hemoglobin depends on the comparison, in a colorimeter, of carbon monoxid hemoglobin solutions, one of which has a known hemoglobin content. Blood is obtained in the usual manner by pricking the finger or lobe of the ear. A 1 per cent. solution of blood is made by drawing 0.05 c.c. into a special pipet and transferring into 5 c.c. of 0.4 per cent. ammonia solution—accurately measured with a calibrated pipet or buret into a 12 by 120 mm. test tube. The blood pipet is rinsed out by drawing into it two or three times the ammonia solution. Ordinary illuminating gas is bubbled rapidly through the ammonia blood solution for thirty seconds, after which, it is compared in a Duboscq colorimeter with a standard carbon monoxid hemoglobin solution set at 10. The average of at least four readings is taken. The calculation is simple, $\frac{10}{R} \times 100 =$ per cent. hemoglobin.

74. **Thyroid Feeding and Liver Glycogen.**—Kuriyama investigated the glycogenetic and glycogenolytic action of the liver

of thyroid fed animals, the influence of thyroid feeding on the liver glycogen of frogs, the interrelations of the thyroid and suprarenals, acidosis after thyroid feeding, and the influence of alkali on the diminished content of liver glycogen of thyroid fed animals. Desiccated thyroid was usually fed, although fresh pig thyroid was used in one series of experiments. Kuriyama found that the storage of glycogen in the liver of thyroid fed rats does not occur readily, even with the administration of a large amount of a very high carbohydrate diet. In fasted rats the liver glycogen reappears abundantly after ingestion of a comparatively small amount of food. If a sufficiently large calorific food intake is administered to thyroid fed rats, liver glycogen may sometimes reappear to a limited extent. The quantity of glycogen so stored is, however, much smaller than that in fasted rats, subsequently given food with a fuel value several times less than that of the thyroid fed rats. The diastase content of the normal rabbit serum and the normal rat liver is about 62.5 and 156 to 250, respectively. Thyroid feeding does not change these values markedly. The glycogen of the liver of thyroid fed frogs (*Rana pipiens*) is practically the same as that of controls.

75. **Epinephrin Content of Suprarenals after Thyroid Feeding.**—Kuriyama says that thyroid feeding of either short duration with large doses or long duration with small doses does not materially change the epinephrin content nor the weight of the suprarenals of medium seized albino rats.

Journal of Laboratory and Clinical Medicine, St. Louis

January, 1918, **3**, No. 4

79 Liberation of Epinephrin from Suprarenal Glands. J. M. Rogoff, Cleveland.—p. 209.
80 *Responsibility of Vaccinator in Overcoming Rational Objections to Smallpox Vaccination. J. N. Force and I. M. Stevens, Berkeley, Calif.—p. 220.
81 *War Deafness and Its Prevention; Report of Tests on Eight Preventives. S. R. Guild, Ann Arbor, Mich.—p. 226.
82 Compact Box for Collection and Transportation of Blood for Hemoglobin Estimations and Cell Counts. S. P. Reimann and E. P. Heller, Philadelphia.—p. 238.
83 Aids to Laboratory Efficiency. M. J. Breuer, Lincoln, Neb.—p. 241.

80. **Overcoming Objections to Smallpox Vaccination.**—In order to test the effect of age, method of preparation, and method of storage on the potency of vaccine, Force and Stevens conducted a number of vaccinations with vaccines of various ages prepared by various methods. In a series of vaccinations made with vaccines ground in glycerin and stored in the ice-box for varying periods before use there were 8 reactions and no failures at the end of six months' storage; 8 reactions and 1 failure at the end of five months; 18 reactions and 1 failure at the end of four months; 24 reactions and 1 failure at the end of three and one-half months; 178 reactions and 1 failure when the vaccine had been stored for five weeks; and 33 reactions with no failures when the vaccine had been stored two weeks before use. In a similar series made with a glycerinated vaccine which had in addition been subjected to the action of ether to reduce the number of contaminating organisms before storage in the ice-box, there were 8 reactions and 1 failure with vaccine six months in storage; 2 reactions and 4 failures with vaccine held five months; 19 reactions and no failures with vaccine held four months, and 14 reactions and no failures with vaccine held three and one-half months. The percentage of failures in this series is only slightly higher than with the corresponding glycerinated vaccines which had not been etherized. In a series of 230 vaccinations made with a vaccine which had been etherized but showed a high bacterial count there were no failures; but equally good result were obtained in 168 vaccinations with a vaccine which had been etherized until practically sterile. In 38 vaccinations with a vaccine which had been incubated for twenty-four hours after grinding in glycerin and then stored in the ice-box until practically sterile, there were no failures. A series of sterile vaccine prepared according to the method of Noguchi, by passage through rabbit testicles, resulted in 5 reactions and 4 failures on second passage of the strain originally received from the Rockefeller Institute; 10 reactions and 11 failures on the fifteenth passage, and 7 reactions and 56 failures on the twenty-ninth passage through rabbit testicles. This shows a steady deterioration which Greely believes to be due to the absence of certain sporelike forms of the organism which are present in vaccine cultivated on the skin. The results of these vaccinations show that the greatest factor in vaccine potency is the maintenance of ice-box temperature during the entire period between manufacture and use. Etherizing and preliminary incubating do not appear to affect the potency provided the vaccine is properly iced. On the other hand, failure to secure constant ice-box conditions will result in the use of large amounts of inert virus even if the expiration date is not exceeded.

81. **War Deafness and Its Prevention.**—The relative efficiency of various devices for preventing injuries to the ear parts by detonations was tested on guinea-pigs by Guild. Eight preventives have been used in the work done to date: 1. The "Scientific Ear Drum Protector, Tommy," consisting of a hollow soft rubber spherical bulb with an opening on one side surrounded by a flange. 2. A device invented by Dr. J. Gordon Wilson and Prof. A. A. Michelson, consisting of a hollow framework of hard rubber in which is supported a valve of light metal so arranged as to stay open and permit ordinary sounds to pass at the edges, but so adjusted that detonation waves can cause it to shut by moving inward and forming contact with what may be called the valve seat. The Elliott "Perfect Ear Protector." 4. The "Mallock-Armstrong Ear Defender." 5. Wax cones which Guild made after the description given by Rho as having been adopted in the Italian navy. 6. Dry cotton placed firmly. 7. Cotton saturated with glycerin, carefully kneaded to drive out all the air bubbles possible. 8. Cotton saturated with petrolatum, carefully worked in until a uniform mass was obtained. In the first group Guild places the "Tommy" and the Mallock-Armstrong devices. There is nothing simpler to keep clean than "Tommy" and for army use it seems the best of those tested. The wax cone of the Italian navy type comes next in order, followed closely by cotton soaked with petrolatum. Cotton soaked with glycerin did not protect quite so well as that saturated with petrolatum; the explanation probably lies in the greater viscosity of the petrolatum. The Elliott Perfect Ear Protector and the Wilson-Michelson device rank together with dry cotton as having been given the least protection to the middle ear parts of the animals used. With all three preventive measures every animal showed positive injuries, and one out of each group of three animals had a ruptured tympanic membrane. Of the mechanical devices, the Elliott reduces ordinary sounds the least and the "Tommy" the most, the "Tommy" cutting it down more than dry cotton does, but all of the mechanical devices permit more to pass than do the wax or the soaked cotton plugs.

Journal of Nervous and Mental Disease, Lancaster, Pa.

December, 1917, **46**, No. 6

84 *Pathology of Nervous System in Progressive Lenticular Degeneration. L. J. Pollock, Chicago.—p. 401.
85 *Psychoses Associated with Diabetes Mellitus. H. D. Singer and S. N. Clark, Kankakee, Ill.—p. 421.
86 Rational Use of Lumbar Puncture and Interpretation of Findings. J. B. Ayer.—p. 429.
87 Paronoic Condition; Report of Case. A. Sauthoff, Mendota, Wis.—p. 436.

84. **Pathology of Nervous System in Progressive Lenticular Degeneration.**—The changes observed by Pollock in this case of progressive lenticular degeneration may be said to consist of local and general reactions. The general reactions include such cell and glia changes as may be attributed to direct, acute and chronic types of reaction. Although diffusely found and widely scattered, these changes are moderate in their intensity. The condition causing the patient's death, attended as it was with sepsis and hyperthermia, must have played no small rôle in producing many of these changes. It certainly could have caused the perivascular infiltration, the small round cells, and many of the changes in the pyramidal cells, and the satellitosis. The chronic changes, which were widely scattered, were distinctly overshadowed by those which were localized in the lenticular nucleus. The degeneration of the lenticular nucleus showed no evidence of an inflammatory reaction. The very prominent vessel changes in areas where the degeneration had not proceeded to disintegration

indicated that these changes were at least a part of the general effect of the agent producing the degeneration, and were not consequent to the disintegration. Where the disintegration was greatest the blood vessels, reinforced by glia fibers, showed the greatest resistance to the destructive process. The intense gliosis seemed to have been built up on a groundwork of pathologic blood vessels. The gnarled, twisted, knotted and curved vessels occur wherever an atrophic process is present, as in paresis, foci in senile dementia, abiotrophy, etc. This is probably the explanation for their appearance in this case, where there was a marked atrophy in the degenerated area. The wavy curving of vessels is associated with thickening of the adventitia and here was due to sclerotic degeneration of the adventitia. In the absence of inflammatory changes and evidence of reactions due to toxic changes, the vessel changes in this case point to the existence of a process superimposed on a faulty development of the nervous system.

85. **Psychoses Associated with Diabetes Mellitus.**—Singer and Clark record the appearance of toxic hallucinosis in a case of diabetes and suggest that in all probability some of the so-called anxious depressions in the literature may have been really of this type.

Medical Record, New York

Jan. 19, 1918, **93**, No. 3

88 National Danger from Defective Development of Growing Children in Time of War. H. D. Chapin, New York.—p. 89.
89 Histopathologic Studies on Brain Abscess. G. B. Hassin, Chicago. —p. 91.
90 Surgical Significance of Abdominal Pain in Children. W. E. Hartshorn, New Haven, Conn.—p. 96.
91 Physiology of Aerophagia. S. J. Meltzer, New York.—p. 100.
92 History and Symptoms of More Value than Physical and Laboratory Findings in Diagnosis of Pulmonary Tuberculosis. S. A. Slater, Oil City, Pa.—p. 101.
93 Scurvy Produced by Feeding Pasteurized Milk. J. M. W. Kitchen, East Orange, N. J.—p. 105.

Modern Hospital, St. Louis

January, 1918, **10**, No. 1

94 Patient Labor in Hospitals for Insane. E. L. Hill, Jacksonville, Ill.—p. 1.
95 Development of Prison Industries. J. L. Whitman, Springfield, Ill.—p. 4.
96 Marine Hospital Sanatorium, Fort Stanton, N. M.—p. 7.
97 Elementary Terms of Nutrition. J. P. Street, New Haven, Conn. —p. 10.
98 Kansas Public Health Car. E. D. Hertzler, Halstead, Kan.—p. 14.
99 Pennsylvania an Example of Advantage of State-Wide Control of Tuberculosis. K. Schaeffle, Harrisburg, Pa.—p. 17.
100 New Children's Hospital at Denver. M. B. Biscoe and S. S. Goldwater, New York.—p. 22.
101 Standardization of Hospitals—Class VII, Small Municipal Hospitals. J. A. Hornsby and others.—p. 25.

New York Medical Journal

Jan. 5, 1918, **107**, No. 1

102 Ophidismus or Snake Poisoning. C. C. McCulloch, Jr., Washington, D. C.—p. 1.
103 *Three Unusual Cases of Renal Tuberculosis. L. Buerger, New York.—p. 6.
104 Single Suture Appendicectomy. A. J. Walscheid, New York.—p. 8.
105 Hospital Treatment vs. Home Treatment. J. W. Brannan, New York.—p. 10.
106 Body Flexibility; Its Influence on Health. S. Lewis, Lakehurst, N. J.—p. 12.
107 Comparison of Physical Condition of Prisoners on Admission and on Discharge. F. L. Heacox, Auburn.—p. 13.
108 Organization of Department of Physical Education of Rochester Public Schools. H. J. Norton, Rochester.—p. 17.

Jan. 19, No. 3

109 Ductless Glands and Dermatology. W. P. Cunningham, New York.—p. 97.
110 Some Features of Cerebrospinal Meningitis in Children. A. G. Mitchell and W. W. Falkener, Philadelphia.—p. 103.
111 Treatment of Eclampsia. J. R. McCord, Atlanta, Ga.—p. 105.
112 Instruction and Supervision of Expectant Mothers in New York City. J. Sobel, New York.—p. 107.
113 Myalgia of an Isolated Portion of Muscle. A. Gordon, Philadelphia.—p. 113.
114 Colitis. A. C. Geyser, New York.—p. 116.
115 Gaucher's Disease; Report of Case. M. S. Reuben, New York.—p. 118.
116 Myoma of Intestines; Report of Case. F. Christopher, New York. —p. 120.
117 Amaurotic Family Idiocy. J. W. Brandeis, New York.—p. 121.
118 Trench Diseases. J. E. Lind, Washington, D. C.—p. 122. To be continued.

103. **Renal Tuberculosis.**—Three cases are described by Buerger because they emphasize how difficult it is to recognize a tuberculous lesion in a kidney, even when the kidney is bisected, and practically the whole of its pelvis brought into view. In one case the kidney had a seemingly normal parenchyma and yet there was apparently extensive involvement of the pelvis of the kidney and ureter. This was a case of frank vesical tuberculosis, with tubercle bacilli in the urine, and with typical lesions about the right ureteral orifice. Buerger removed an enormously thickened ureter, doubtlessly tuberculous, and a kidney with minimal changes, changes insufficient for recognition by the surgeon at the operating table, and requiring thorough investigation on the part of the pathologist for their detection. In the second case there were early lesions of tuberculosis in the pelvis of a kidney in which there were no signs of involvement of the parenchyma. The dissemination of the process took place by way of the pelvic mucosa rather than upward into the cortex or pyramids. In the third case there were necrotic lesions in the calyx and pelvis and on the tip of the papilla.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

December, 1917, **22**, No. 7

1 Roentgen Diagnosis of Pulmonary Tuberculosis. W. Overend, and G. T. Hebert.—p. 193.
2 New Apparatus for Assisting Surgeon in Finding Foreign Bodies Localized by Roentgen Rays. J. H. Edwards.—p. 211.
3 Roentgen Rays from Sources Other Than Focal Spot in Tubes of Pure Electron Discharge Type. W. R. Coolidge and C. N. Moore.—p. 216.

British Medical Journal, London

Dec. 22, 1917, **2**, No. 2973

4 *Some Points Arising in Nerve Injuries. H. S. Souttar.—p. 817.
5 *"Myalgia;" Its Diagnosis at the Front. F. B. Chavasse.—p. 820.
6 *Treatment of Thrombosis. H. F. Marris.—p. 822.
7 Anatomic and Physiologic Principles Underlying Treatment of Injuries to Muscles, Bones and Joints. A. Keith.—p. 824.

Dec. 29, No. 2974

8 *Study of Fifty Cases Treated by Flavine. E. F. Bashford, J. N. J. Hartley and J. T. Morrison.—p. 849.
9 *Treatment of Paraplegia from Gunshot or Other Injuries of Spinal Cord. A. W. M. Robson.—p. 853.
10 Necessity for Education in Roentgenology and Electrotherapeutics. G. H. Orton.—p. 854.
11 Mycologic Detection and Determination of Certain Carbohydrates and other Carbon Compounds in Pathologic Work. A. Castellani and F. E. Taylor.—p. 855.
12 Method of Skin Grafting Under Septic Conditions. P. Bousfield. —p. 857.
13 Skin Grafting. N. H. Joy.—p. 857.
14 Anatomic and Physiologic Principles Underlying Treatment of Injuries to Muscles, Bones and Joints. A. Keith.—p. 858.

4. **Nerve Injuries.**—Souttar is of the opinion that in the vast majority of cases the nerve is implicated in the primary wound. The nerve may be severed totally, with the formation of end bulbs, or a portion only may be replaced by dense fibrous tissue. But in the latter case careful examination will show that some fibers at least were totally severed. The fact that complete spontaneous recovery may sometimes occur is readily explained when one recollects that one third of the fibers of any nerve may be destroyed without any permanent loss of function. The injury being primary, it is possible to diagnose the condition at an early stage and to institute at once suitable treatment. As a result contractures can be prevented, muscles can be kept in good condition, joints can be kept free, and the whole limb can be brought to such a point that when the time does come for the nerve to regenerate, whether by itself or with the assistance of the surgeon, it can do so under perfect conditions and with the best possible prospect of success. Of this success the foundation is an early diagnosis.

As to treatment, Souttar says that the first treatment which can be adopted is massage, and to it must be given the premier place throughout. It should be started at the earliest

possible moment, and splints should be so arranged that as much as possible of the limb can be reached. But even if only a very small area is available it should not be neglected. When gross damage to the limb has been more or less repaired, wounds healed and bones united, movements, active and passive, on a larger scale may be attempted. By this means any adhesions which may have formed in joints, or between muscles and tendons, can be broken down gradually, and a wide range of movement obtained, while the nonparalyzed muscles are fully exercised, and regain their normal power.

A new form of treatment has lately come into favor in the form of the whirlpool bath. The principle is that the limb is surrounded by a stream of rapidly moving water at as high a temperature as can be comfortably borne, about 110 F. The result is a rapid absorption of heat by the limb, the blood flow in which is in consequence greatly accelerated, while at the same time it is subjected to a continuous gentle massage by the moving water.

Electrical treatment is in Souttar's opinion at least equal in value to the methods already mentioned, and has peculiar possibilities of its own. Two forms of current are used: galvanic and sinusoidal. The latter is used through the medium of baths, and probably acts chiefly on the vascular channels, for it is never used in sufficient strength to provoke contraction of muscle. The paralyzed muscles will, of course, only respond to the galvanic stimulus. This is arranged by means of a metronome to come at regular intervals of two or three seconds, or the small moist pad which forms the electrode is slowly stroked up and down the limb, the muscles responding in turn by a gentle wave of contraction. In the intervals between treatment every precaution must be taken to keep the limb warm, protect atrophic skin from injury, to keep paralyzed muscles relaxed, and to prevent the development of contractures.

No operation can be undertaken until all risk of sepsis has gone. The suture of a divided nerve where the gap is small and there are no complications is simplicity itself. In most cases it can be accomplished by very wide freeing of the nerve, and by placing the limb in a suitable position. In cases in which there is a large gap there is usually a large end bulb on the proximal end. In this case one may take advantage of a flap operation which Souttar advised to meet the difficulty, and from which he has obtained excellent results. A flap is turned down as far as the bulb, which forms a sort of hinge. The terminal half of the bulb is now amputated, and the raw surface, on which the majority of the fibers must appear cut across, is folded over itself and sutured. In this way the living fibers are preserved to almost their extreme point, and a living scaffold is provided for their downgrowth, which still retains its blood supply. The results of this method have been surprisingly good. In other cases the only way to bridge the gap is by the introduction of a graft, and for this the radial nerve is useful. The most attractive of all methods, in a case otherwise impossible is cross-grafting. This has given brilliant results in animal experiments, and Souttar sees no reason for the wholesale condemnation to which it has been subjected. It can be done without permanent damage to the healthy nerve, for it is possible to divide one third of the fibers of the median, for example, without any permanent disability whatever. Souttar has done it on three occasions for the benefit of the musculospiral, and though they are somewhat recent cases he feels confident from their progress that they will be successful. At the same time it is a method which must at present be regarded with great reserve and adopted only in very special cases.

5. **Diagnosis of Myalgia.**—Chavasse discusses the work done to improve the diagnosis "myalgia" by the application of simple and rapid criteria suitable to the difficulties which attend diagnosis in the front line. The observations were conducted at a field ambulance over a period of three months, and with a front line battalion over a period of twelve months. A few cases necessary to complete the series were seen at a casualty clearing station. The application of rough and rapid diagnostic criteria to 200 cases reaching field ambulance and casualty clearing station diagnosed myalgia resulted in an improvement of the diagnosis in 60 cases, excluding those newly diagnosed "neuralgia," and in 108 cases including the new diagnosis, neuralgia (that is, in more than one half). Of these there were: pyrexial conditions, 19 cases; postpyrexial conditions, 19 cases; arthritis, 16 cases; sciatica, 4 cases; neuralgia, 46 cases.

The question of malingering assumed considerable importance in the inquiry. Gross malingering was uncommon, but the exaggeration of symptoms was very prevalent among those who were in the habit of reporting sick. The inquiry was concluded in fifty cases which may be taken as typical of genuine uncomplicated myalgia as seen in forward areas. The distribution is usually symmetrical (36 cases) and is in the majority of cases lumbosacral, extending down the lower extremities for a varying distance. Pain is absent when the patient is lying down, warm, and perfectly still (44 cases). This is a marked distinction from pyrexial, postpyrexial and neuralgic conditions. In these the pain is aggravated when the patient is warm in bed. Rest makes the patient stiffer (46 cases). This stiffness wears off on moving about gently (34). Active contraction and passive hyperextension, especially if quick, cause pain, which is described as sharp rather than dull (45). Cold and damp weather precipitates or aggravates the condition (37). Prolonged exertion (route marching with full pack, digging, etc.) have a like effect (41). Massage is painful (27 cases out of 31) but beneficial (21 cases out of 31). The condition is chronic (previous attacks in 44 cases). The site of the pain is generally identical in successive attacks (29 cases out of 44). The onset is usually sudden (35).

There appears to be no connection between previous pyrexial attacks and myalgia. But in the case of neuralgia there would seem to be a definite relationship. The young are not exempt (one patient aged 19), but the condition is uncommon under 30 and increasingly common thereafter. Therefore it may be said that myalgia is a chronic condition, precipitated or exacerbated by cold, damp and fatigue affecting groups of muscles and characterized by muscular stiffness becoming greater on resting and less with movement, and by pain, absent at complete rest, and sharp on active contraction and passive hyperextension. It is to be distinguished from neuralgia by the facts that in neuralgia the pain is aggravated when the patient is warm and motionless, and that in neuralgia hyperesthesia of the skin is commonly present.

6. **Treatment of Thrombosis.**—During the past two years, seventeen cases of venous thrombosis have been under Marris' care, the majority having arisen during the course of an infection bacteriologically proved to be by a member of the enteric group, the remainder occurring during the course of other fevers of obscure origin. Signs and symptoms: Rigors were noted in four of the cases. Fever was always present; pain invariably so, on two occasions being so severe that the question of intestinal perforation arose. Swelling of the limb was always present, usually appearing on the third day from onset of the other symptoms. In most of the cases the thrombus could be felt. The earlier cases were treated locally with anodyne liniments, and internally and intravenously by the liberal administration of citric acid and a milk free diet. An analysis of these cases appears to justify the conclusion that the treatment of thrombosis by this method does quickly arrest the process. From the patient's point of view the almost immediate release from pain was most gratifying.

Analysis of two groups shows that in those treated by the intravenous method the subsequent period of pyrexia was shorter by an average of four days and the onset of convalescence by an average of ten days than in those cases treated by the oral method. The average number of days from the onset of thrombosis to evacuation in the cases treated by the intravenous method was thirty days, while in those cases treated by the oral method it was thirty-nine. In the seven cases treated by the intravenous method five were evacuated as walking and two as sitting cases, and in one only was there edema present on discharge; in the oral series of ten cases, only five were evacuated as walking

and three as sitting cases, while two had to be sent to England as stretcher cases, and in no fewer than five cases there was a considerable amount of edema present on discharge.

8. **Fifty Cases Treated by Flavine.**—Since June, 1917, Bashford and his associates have investigated the clinical results of the application of flavine to war wounds. At the same time an attempt has been made to interpret these results with the help of histologic and bacteriologic methods. The flavine used has been for the most part "acriflavine" sent out by the Medical Research Committee, but latterly samples of proflavine from the same source were substituted. The results were substantially the same with both. On account of the experimental nature of the treatment, the cases were carefully arranged in a series of gradually increasing severity. The wounds, taken as a whole, were not of great gravity, and this fact was considered in estimating the value of the treatment. Almost all had been treated previously at the front by the Carrel-Dakin method within twenty-four hours of being wounded, and, in the majority of instances, very efficiently. No wounds involving the cavities of the head, chest, or abdomen were included. The patients reached the wards at periods varying from one to six days from the date of reception of the wound, and the flavine treatment was then substituted for that of Carrel-Dakin. It was carried on continuously until either the wound became ready for secondary suture, or until, after three weeks' treatment, it had definitely failed to attain the necessary standard for closure. In a few cases the treatment was stopped in the patient's interest before the three weeks had elapsed. Every attempt was made to eliminate the possibility of personal bias. In wounds treated by the Carrel-Dakin method it is the cocci which are usually the last to disappear from an infected wound surface. In these wounds treated by flavine the commonest type of organism to outlive others on the wound surface was a gram-negative bacillus.

This study showed, in brief, that a solution of 1:1,000, far from being innocuous, produces very deleterious effects on the entire process of healing, killing successive layers of the reacting tissue elements, including the essential vascular mechanism. The flavine treatment of wounds is associated with small formation of pus, slow epithelial ingrowth, delay in all the processes of repair, lingering of organisms on the wound surface, some diminution in the local and general reaction to infection. The only favorable feature has been that the patient is apparently protected in some way from the absorption of toxic products. Whether this is due to the disturbance of vascularity or to flavine rendering toxic products nontoxic has not been determined. The authors are convinced that the employment of flavine and other dyes as if they supplied royal roads to success must be regarded as retrograde steps.

9. **Treatment of Paraplegia.**—Robson cites a case to prove that suture of the severed cord can be successfully performed. Some years ago he performed laminectomy in the middorsal region in a boy suffering from tuberculous disease of the spine and paraplegia. He ultimately made a complete recovery. The spinal support with which he had been furnished was, after a time, discarded, without advice, and in time he developed a well marked hunchback. One day, while giving a boy a ride on his back, he fell and fractured his spine at the seat of weakness. This was immediately followed by paralysis. Robson saw him shortly after the accident and cut down on the cord, which was torn nearly across from behind forward, the separation behind being in width about half an inch, a small part of the front of the cord only holding together. On straightening the spine the divided ends came into good apposition, and were fixed with fine catgut sutures. The theca of the cord was then closed by a continuous catgut suture, and the rest of the wound was united. The patient was put up at once in plaster-of-Paris in the straight position. There was very little shock, and recovery from the operation was uninterrupted. The function of the lower part of the cord gradually returned. Ultimately he regained power over the sphincters and recovered the use of his lower extremities.

Journal of Tropical Medicine and Hygiene, London

Dec. 15, 1917, **20,** No. 24

15 Solubility of Malarial Pigment. A. C. Stevenson.—p. 277.
16 Malarial Mimicry. A. E. Kamar.—p. 277.

Lancet, London

Dec. 22, 1917, **2,** No. 4921

17 Medicine, Magic and Religion. W. H. R. Rivers.—p. 919.
18 Relation Between Chemical Constitution and Physiologic Action. F. L. Pyman.—p. 924.
19 *Tetanus Treated in Home Military Hospitals. D. Bruce.—p. 925.
20 Modern View of Tetanus. F. Ransom.—p. 928.
21 Analysis of One Hundred and Two Consecutive Cases of Tetanus. N. A. Cooper.—p. 930.
22 Certain Forms of Albuminuria and Polyuria: Their Cause and Cure. E. F. Cyriax.—p. 931.

Dec. 29, No. 4922

23 Medicine, Magic and Religion. W. H. R. Rivers.—p. 959.
24 Antitetanus Serum in Monkey. C. S. Sherrington.—p. 964.
25 Analysis of Recent Tetanus Statistics. F. Golla.—p. 966.
26 Fatal Case of Splanchnic Tetanus. H. Burrows.—p. 970.
27 Ten Cases of Tetanus. R. N. Salaman.—p. 971.

19. **Tetanus Treated in Home Military Hospitals.**—In the 100 cases of tetanus reviewed by Bruce the mortality was only 19 per cent. The incubation period tends to become longer, due to the prophylactic injection. Hence there are only ten cases reported, with an incubation of ten days or under. Only fourteen cases are reported to have received secondary prophylactic injections of antitetanic serum in home hospitals. In regard to the therapeutic effect of antitoxic serum the evidence is still inconclusive.

Bulletins de la Société Médicale des Hôpitaux, Paris

Nov. 9, 1917, **41,** No. 30

28 Atypical Coccobacilli Found in Nonvaccinated Typhoid Patient. Braillon.—p. 1077.
29 Patent Botalli's Foramen in Robust Man of Fifty. Menetrier and Wolff.—p. 1080.
30 Case of Paratyphoid Hemorrhagic Nephritis. A. Gouget.—p. 1083.
31 Third Case of Rat Bite Disease Known in France During the War. F. Ramond and Lévy-Bruhl.—p. 1086.
32 Paroxysmal Hemoglobinuria. L. Giroux.—p. 1090.
33 *Passage of Alcohol into Cerebrospinal Fluid. E. Lenoble and F. Daniel.—p. 1094.

33. **Elimination of Alcohol in Cerebrospinal Fluid.**—Lenoble and Daniel report further tests which confirm the early passage of alcohol into the cerebrospinal fluid in large amounts in alcohol intoxication. It gradually disappears from the cerebrospinal fluid, but takes eight, ten, twelve or thirteen days before it disappears completely—ten days is the average. The elimination of alcohol is parallel in the cerebrospinal fluid and in the urine, but the proportion in the urine is less. From the medicolegal point of view, the discovery of alcohol in the cerebrospinal fluid has capital importance as alcohol can be artificially introduced into the urine through a catheter, while this fraud is practically impossible with the spinal fluid. In the fifteen cases described the discovery of alcohol in the fluid explained certain febrile conditions otherwise mysterious. The alcohol intoxication superposed on the uremia or liver disease brought on the apoplexy or jaundice.

Paris Médical

Dec. 15, 1917, **7,** No. 50

34 *Valvular Defects and Service at the Front. C. Laubry.—p. 486.
35 *Spider Bites. Gougerot.—p. 493.
36 *Endo-Urethral Diathermy. E. Roucayrol.—p. 495.

34. **Valvular Defects and Army Service.**—Laubry expatiates on the generally practically inorganic nature of the alleged systolic murmurs at the base of the heart when they are not followed by a diastolic murmur. His experience with fifty-five men with valvular defects who have been at the front for a few months up to two years has confirmed the great tolerance, even the indifference of valvular defects in respect to the fatigues of life at the front. Mitral stenosis is the least resistant, but even with this the men had nothing more serious than palpitations or transient attacks of tachycardia. Congenital and complex valvular defects seemed to do as well as any. One of the great elements of this tolerance is the fact that the men were not aware that they had valvular disease. Laubry thinks that a young man with a valvular disease should be assigned to light duty only. If over 35,

and if there are pains in the heart, attacks of tachycardia and palpitation on exertion and the man has been sent back for recurring rheumatism or typhoid, he advises temporary discharge to refrain from compromising the man's future.

35. **Spider Bites.**—Gougerot describes two cases in which the bite of a spider on the cheek or hand induced a lesion resembling anthrax in some respects. It covered more area, however, than an anthrax pustule, while there was no edema, no involvement of glands, no general disturbances, and bacteriologic examination was negative. In both the cases the lesion had entirely retrogressed by the twelfth day at latest.

36. **Intra-Urethral Diathermy.**—Roucayrol extols the subsidence of pain, the rapid disappearance of threads from the urine, and a general tonic effect under the influence of diathermia applied to the urethra in treatment of acute or chronic urethritis. He gives an illustrated description of the high frequency equipment for the purpose.

Presse Médicale, Paris

Dec. 3, 1917, **25**, No. 67

37 *Azotemia in Prognosis. F. Widal, A. Weill and P. Vallery-Radot.—p. 681.
38 *Injection of Air to Replace Effusions. P. E. Weil and Loiseleur.—p. 683.
39 *The "Hole in the Hand" Test for Binocular Vision. A. Cantonnet.—p. 686.
40 High Resisting Power of the Blood Corpuscles in Malaria. L. Netter.—p. 687.
41 Open "Skeleton" Plaster Casts. P. Audion.—p. 688.

37. **Initial Uremia.**—Widal and his co-workers reiterate that the proportion of urea in the blood is the index to the prognosis with chronic kidney disease. The urea content fluctuates at times; only the steady content of 2 or 3 gm. to the liter indicates a fatal outcome in a few weeks or months. When the urea averages 1 or 2 gm. to the liter, the patient seldom lives more than a year. When there is 0.5 gm. up to 1 gm. to the liter this should sound the alarm, and the urea content should be tested every month or two. If it shows a steady rise, the prognosis is grave. Ambard's constant does not throw light on the prognosis. They give some examples of patients with very high Ambard constant for four years or more who yet have no abnormal urea content in the blood. It may keep high for years and then drop to normal findings. It indicates merely abnormal conditions in regard to excretion of urea, but gives no information as to whether the organism can take care of the retained urea without its accumulating in the body fluids. In testing the urea content of the blood it is well to keep the patient for several days on a salt-poor diet. This reveals initial azotemia which otherwise might escape detection, but it is only when it becomes progressive that it is to be dreaded.

38. **Roentgen Exploration of Effusions in Serous Membranes.**—Weil and Loiseleur give roentgenograms showing the instructive findings when air is injected into a joint or the pleura, pericardium, vaginalis or peritoneum, after evacuation of an effusion. There are no untoward by-effects, and the air shows the distention of the parts, the laxity of the joint capsule, etc., and the presence of free bodies in a joint. In tuberculous pleurisy and pericarditis, the injection of air in the place of the effusion has a direct therapeutic action, besides rendering roentgenoscopy possible and distinct. In one case of tuberculous seropurulent and hemorrhagic pericarditis, the young patient has been clinically cured for the eight months since eight applications of paracentesis and insufflation of air in the course of seven months. When the effusion recurs, the presence of the air forces it down into the lower part where it is most readily accessible by subxiphoid puncture. They inject as much air as the amount of effusion withdrawn.

39. **Test of Vision by the "Hole in the Hand."**—Cantonnet expatiates on the information in respect to the condition of binocular vision that can be obtained by the device of looking with one eye through a rolled up paper forming a tube about 10 inches long, holding the open hand against the tube near its outer end. The image seen through the tube gets crossed with the image of the hand, and the result is that what is seen through the tube seems to be seen through a hole in the hand when binocular vision is normal.

Progrès Médical, Paris

Nov. 17, 1917, **32**, No. 46

42 *Enterococcus Infections. Tricoire.—p. 387.
43 Drainage of the Uterus in Puerperal Infections. A. Aimes.—p. 391.

Nov. 24, 1917, **32**, No. 47

44 *Compass for Locating Foreign Bodies. H. Lebon.—p. 395.
45 Eyelashes Driven into Anterior Chamber. A. Cantonnet.—p. 398.
46 Hemophiliac Hemorrhage Arrested by Coagulen in Two Chinese. Clément.—p. 398.
47 The "Coefficient of Robusticity." B. du Coteau.—p. 399.

42. **Enterococcus Infections.**—Tricoire reviews the literature on localized and general infections with the enterococcus and enterococcus septicemia. He warns that when acute articular rheumatism is refractory to the salicylates, the enterococcus should be suspected. Besides the general measures for infections, enterococcus infection may be treated with fixation abscess or vaccine therapy when the general disturbance is slight.

44. **Compass for Locating Foreign Bodies.**—Nemirovsky's mechanical localizer for projectiles, which does not require calculations or diagrams, was described in the Paris Letter, Dec. 8, 1917, p. 1990. Twelve illustrations to shows its workings are given.

Gazzetta degli Ospedali e delle Cliniche, Milan

Dec. 2, 1917, **38**, No. 96

48 *The Heart in Soldiers with Bronchitis or Pneumonia. E. Morelli.—p. 1267.

Dec. 6, 1917, **38**, No. 97

49 Alopecia Areata as Traumatic Neurosis. C. Vignolo-Lutati.—p. 1283.

48. **Bronchopulmonary Disease in Soldiers.**—Morelli refers to cases brought in with the diagnosis of acute febrile bronchitis, but the dyspnea, the stasis at the base of the lungs, large left ventricle and liver, and edema at the ankles suggest that the trouble is mainly failing compensation of the heart, and drugs to tone up the heart are called for; the bronchitis factor is quite subordinate or may be altogether secondary to the heart weakness. Such cases could be treated in the regiment infirmary and do not need regular hospital treatment. He appeals to all to have greater heed paid to the heart of the soldier, and above all when there is complaint of any affection of the respiratory apparatus. Tincture of strophanthus should be supplied to army doctors for just such emergencies, he says.

Policlinico, Rome

Dec. 2, 1917, **24**, No. 49

50 The Duty of Italian Physicians at the Moment. E. Morselli.—p. 1429.
51 Treatment of War Wounds of the Thorax. U. Carpi.—p. 1432.
52 The Uniform Collar Should Be Loose and Capable of Being Turned Back. G. Boschi.—p. 1438.
53 Defence Neurosis. G. Galli.—p. 1439.

November, 1917, **24**, Medical Section No. 11.

54 Etiology of Dysenteriform Diarrhea in the Troops at the Front. A. Gasbarrini.—p. 429.
55 Modification of the Electrocardiogram by Increased Work of the Heart. N. Pende.—p. 442. Conclusion.
56 *The Pituitary Body in Relation to Loss of Memory and Inability to Concentrate the Attention. G. Basile.—p. 458.
57 Diplococcus Empyema Perforating Early into the Lung. L. Manfredi.—p. 462.

56. **Pituitary Mental Symptoms.**—Citelli described in 1912 some cases in which there was more or less loss of memory, somnolence or insomnia and inability to concentrate the attention—all in young persons with adenoid vegetations. He later has encountered the same syndrome in persons with diseased sphenoidal sinus or tumors in the nasopharynx. Basile reports an additional case with the typical syndrome in a young man with a tumor in the nasopharynx. He agrees with Citelli that the lesions in the nasopharynx or accessory sinus probably involve the pituitary body, and that this is responsible for the mental disturbances. On this assumption Basile gave pituitary treatment. The coexistence of sexual frigidity with the psychic symptoms, and the development of the latter keeping pace with the growth of the tumor, confirmed the causal connection with the pituitary. The gradual and complete recovery after removal of the tumor demonstrated further that the pituitary had not been damaged beyond repair.

Riforma Medica, Naples

Dec. 8, 1917, **33**, No. 49

58 *Test of Functional Capacity of the Heart. G. Breccia.—p. 1133.
59 *Cancer Fever. L. Pedrini.—p. 1135.
60 *False Sero-Agglutination. A. Martiri.—p. 1140.
61 Malaria Contracted in Balkan States. G. Molinari.—p. 1145.

58. **Functional Test of the Heart.**—Breccia calls attention to the rapid enlargement of the heart in certain persons when the upper abdomen is briskly and repeatedly tapped. The heart returns to its former outline in a few minutes. He first outlines the heart by percussion, the subject standing or lying strictly horizontal. The abdominal wall is then tapped vigorously with the bunched fingers or the earpiece of a stethoscope, striking on the lower third of the line from the xiphoid process to the umbilicus, the strokes hard enough to shake well the abdominal wall, giving from twenty to thirty strokes. The heart outline is then determined anew and again after flexing the forearm on the arm several times. The reaction indicates that the heart is weakened too much to respond quite normally to the extra demands made on it by the mechanical stimulation thus induced in the abdominal aorta. It is thus a rapid and practical sign that the heart is below par. In 100 cases of mitral defect the reaction was negative in the perfectly compensated cases and positive in all the others and in the anemic and weak.

59. **Cancer Fever.**—The primary fever with cancer has no special type. The progress of the growth is not stimulated and there is no special modification of the blood picture. Secondary fever, from superposed infection, has the character and effects of pus fever; the cancer increases in size and the pains are magnified, the whole malignant process being apparently whipped up.

60. **Pseudo-Agglutination.**—Martiri warns that agglutination is not characteristic unless there is actual clumping with formation of more or less large flakes, through the fluid. Simple precipitation without floating clumps is not true agglutination. In twelve cases of catarrhal jaundice, in four there was only this false sero-agglutination for typhoid or paratyphoid germs.

Brazil-Medico, Rio de Janeiro

Oct. 27, 1917, **31**, No. 43

62 *Kidney Stones in Children. N. Gurgel.—p. 365.
63 Substitute for Giemsa Stain: Azurol. A. de Vasconcellos.—p. 367.

Nov. 10, 1917, **31**, No. 45

64 Godoy's Hygrometer. II. A. Godoy.—p. 383.

Nov. 17, 1917, **31**, No. 46

65 *Serotherapy against Scorpion Stings. E. Villela.—p. 393.
66 *Helminthiasis in Bahia District. O. Torres.—p. 393. Commenced in No. 45, p. 383.

62. **Kidney Stones in Children.**—Gurgel reports the case of a boy of 6 who for three years had suffered from paroxysms of pain which were treated at first for bowel trouble or neuralgia. When traces of abnormal elements were found in the urine, gravel was suspected but treatment on this basis gave no result. Roentgenoscopy disclosed two stones in the left kidney pelvis and they were easily removed, freeing the child at one stroke of all disturbances. The stones consisted of phosphates and oxalates, weighing 762 and 555 mg. There had been no hematuria or pyuria, and only slight and infrequent albuminuria, and the child was in robust health aside from the recurring pains. Gurgel has encountered several cases of concretions in the child kidney but this is the first in which the stones were in the pelvis.

65. **Serum for Scorpion Stings.**—Villela reports that the difficulties in obtaining scorpions for the purpose have now been overcome at the Bello Horizonte branch of the Oswaldo Cruz Institute. An antiserum has now been obtained which in the dose of 5 c.c. protects a guinea-pig against an otherwise certainly fatal dose of the scorpion poison. The antiserum has already been applied in a clinical case and with complete success. A boy baby of 9 months was stung in the stomach region by a scorpion, and pain and vomiting followed at once. The prostration by the end of the hour was extreme, with intense pallor, dyspnea, frothy and yellow vomit; pulse 100; respiration 100 to the minute; the hands and feet were icy and the entire body was covered with a clammy sweat. Three hours after the child had been stung the scorpion antiserum was injected subcutaneously, 4 c.c. at the site of the wound and 4 c.c. in the thigh. Fifteen minutes after the injections the vomiting stopped and the general condition rapidly improved. In less than two hours the child's appetite had returned and the temperature and respiration had returned to normal.

66. **Helminthiasis at Bahia.**—Torres is professor of clinical medicine at the University of Bahia in northeastern Brazil, and he states that systematic examination of stools in his service revealed the hookworm in 795 out of 1,213 examinations, ascarides in 700, and the trichocephalus in 714, Manson's schistosomum in 209, the oxyuris in 86 and the anguillula in 107; only 57 examinations were negative. Association of helminths was common. Of the 230 persons examined, less than 5 per cent. of the healthy persons were found free from helminths and none of the hospital patients. The only ones free from hookworm were persons who habitually wore shoes or boots, most of the clinical material in Bahia being farm laborers who do not wear shoes regularly. No signs of tenia were found in any instance. It is the routine practice now in the service for skin diseases to give each patient 0.75 gm. of naphthol B every morning for twenty or thirty days, examining then to see if the helminths have disappeared from the stools. He gives thymol systematically to all the patients in his service. He cites three cases of chronic leg ulcers, long rebellious to treatment, in laboring men harboring hookworm, trichocephalus and ascarides. After cure of the helminthiasis under thymol, the leg ulcers healed promptly under simple local measures. It is the rule now to give a course of thymol before undertaking any except emergency operations. Torres has urged that the children in the primary schools should be taught the principles of hygiene in respect to helminths. In conclusion he refers to the fact that Rio de Janeiro has accepted the offer of the Rockefeller Foundation to aid in the prophylaxis of helminthiasis, and he is confident that other states will follow the example of Rio.

Gaceta Medica de Mexico

January-June, 1917, **11**, No. 1-6. Last two-thirds, pp. 38-202

67 Experiments with Mexican Typhus. J. I. Saloma.—p. 40.
68 *Diagnosis of Pregnancy. A. L. Hermosa.—p. 43.
69 *Deficiency Edema. E. Landa.—p. 67.
70 Prophylaxis and Treatment of Typhus. G. Mendizabal.—p. 86.
71 Etiology of Typhus. J. Terres.—p. 111.
72 Multiple Causes of Dysentery. J. Terres.—p. 112.
73 Paracolon Bacilli and Paratyphoid Infections. J. Terres.—p. 115.
74 *Ophthalmology in the Medical Course. M. Uribe y Troncoso.—p. 123.
75 *The National Medical Institute of Mexico. J. Terres.—p. 132.
76 Hernia in Children. M. R. Soberon.—p. 138.

68. **Diagnosis of Pregnancy.**—Hermosa systematizes his examination, proceeding from questioning to inspection, then palpation with or without auscultation and percussion, and vaginal palpation combined with palpation of the abdomen. This simultaneous vaginal and abdominal palpation is particularly instructive. He classifies in tabulated form the woman's subjective signs, the objective and the signs on the part of the fetus. Ptyalism is the earliest sign of all as it may develop close after fecundation, but it is of rare occurrence. There may be itching or pain in the breasts or even infarction of the glands in the axilla. Pathologic hemorrhages from vicious embedding of the ovum or other cause, explain the cases on record of apparent menstruation during gestation. An otherwise abnormal tendency to drowsiness may be one of the early signs of pregnancy, as also dizziness and syncope. Among the abdominal findings liable to be mistaken for pregnancy he mentions a case in which the assumed pregnancy at term proved to be a huge subperitoneal fibroma, its lumpy surface simulating the parts of the fetus. If the woman can raise her head quickly from the pillow and stretch and bend her limbs freely, we can exclude an abdominal inflammatory process as otherwise she would be unable to do this without wincing. Percussion is useful when there is suspicion of an ovarian cyst or tumor in liver or spleen, or when there is gaseous inflammation or meteorism simulating a gravid uterus.

69. **Edema from Inadequate Food.**—Landa relates that in August, 1915, when the city of Mexico had been the center of military operations for two or three months, the appearance of numerous cases of edema in men, women and children began to be noted. Physicians called attention insistently to the absence of albuminuria in these hundreds of cases of edema. Many persons died of actual starvation, but the findings in these cadavers differed from those in the edema cachexia from defective nourishment. Four cases are described in detail with the necropsy findings. The mortality was high, the patients dying in marasmus from heart failure. Besides the anasarca and hypothermia, there was bradycardia and also pains in the muscles and reduction of the reflexes. The number of corpuscles in the blood was below normal, and the hydremia was generally marked, but in some cases proliferation of sclerous tissue around the arteries suggested a possible active infectious process. The only food available had been vegetables of the chenopodia and amaranth families, such as beets and spinach.

74. **Ophthalmology in the Regular Curriculum.**—Uribe pleads that the affections of the anterior segment of the eye should be taught as part of the regular medical course, not to train specialists, but to give the general practitioner the ability to ward off blindness in urgent cases. Some of the statistics he cites show that over 72 per cent. of the cases of blindness were avoidable. According to the 1910 census in Mexico, there were 15,000 blind persons, ten to each 10,000 inhabitants. Spain, Hungary and Norway have respectively over 11, 12 and 13, while France has 9.4, Germany 8.7 and Holland 4.4. Mexico, however, heads the list with the largest proportion of cases of blindness from purulent ophthalmia. In the Mexican National School for the Blind over 49 per cent. of its graduates had lost their eyesight in consequence of purulent ophthalmia. For a large proportion of blindness in Mexico, smallpox is undoubtedly responsible. Blindness from accidents might sometimes be prevented if the physicians called at first had had some training in ophthalmology.

75. See news columns, Feb. 2, 1917, p. 332.

Medicina Ibera, Madrid

November, 1917, **1**, No. 1

77 *Nongonorrheal Disease of the Prostate. M. Barragan.—p. 3.

77. **Nongonorrheal Disease of the Prostate.**—Barragan reviews his experiences with 36 cases of inflammatory processes in the prostate resulting from catheter infection or the catheter going astray; 4 cases consecutive to rectal processes; 4 from foreign bodies in the urethra; 8 from processes in kidney or bladder, and 3 as a consequence of a perineal operation. His two fatal cases were in aged men with septicemia. In the diagnosis he emphasizes the importance of the disturbance in defecation, the desires for defecation occurring almost as incessantly as the desires for micturition, and the act causing intense pains. The pain with acute prostatitis is localized mainly in the depths of the perineum and in the anal region, increasing in intensity at the slightest movement of the muscles, and spreading forward and backward to the lumbar and sacral region. The only relief from the pain is when all the muscles of flexion are relaxed, and we generally find the patient curled up in bed when called in the acute phase.

In his 36 cases a retention prostate catheter was used in 20; in 6 cases the high incision gave relief without infection; in 10 it was followed by infection but an abscess developed only in 4 of the cases; the rest healed with retention catheter. He reiterates that catheterization should be attempted only in men accustomed to the use of the catheter, and in cases of acute retention. Under bed rest, with very hot irrigation under slight pressure of the rectum (45 or 50 C., 113 or 122 F.) every eight hours, sitz baths and light diet, the general phenomena may subside, along with the tumor felt in the rectum. If they persist, the probabilities are that an abscess is forming, and prompt operative relief is called for unless the prostatitis is known to be of urethral origin. In this case expectant treatment for a time is advisable as the abscess may rupture into the urethra and the danger be over. The perineal route for the operation is preferable from every point of view except that the incision takes weeks to heal and the patient has to stay in bed. The great objection to the rectal route is the danger of hemorrhage liable from the congestion in the region. Routier and Oraisson have compiled 32 cases of prostate abscess, opened through the rectum by ten different surgeons, with no death or secondary infection. On the other hand, two of Desnos' three patients died, one from septicemia and one from hemorrhage.

The after-care, as for acute prostatitis, should never be neglected, especially if the gland feels hard and the surface irregular, testifying to catarrhal prostatitis. Otherwise the prostate disease may become chronic. Tuberculous lesions in the prostate present much the same symptoms as any other chronic form except that initial and terminal hematuria is frequent. The perineal or high incisions are preferable for tuberculous processes. Barragan's article was the leading address at the recent meeting—the fourth congress—of the Asociacion Española de Urologia. Others mentioned their experiences, bringing to 97 the number of cases of nongonorrheal prostate mischief. It was emphasized that in the gonorrheal cases ascending infection was the rule, while in the others infection was generally of blood-borne origin.

Prensa Medica Argentina, Buenos Aires

Nov. 20, 1917, **4**, No. 17

78 *Emetin in Amebiasis. P. Barlaro and S. Parodi.—p. 223.
79 *Syphilitic Pancreatitis. C. B. Udaondo.—p. 225.
80 Nonspecific Serotherapy by the Mouth for Ocular Infections. A. J. Manes.—p. 226.

78. **Amebiasis.**—The three cases reported with illustrations and tracings were examined day by day, comparing the clinical course, and the findings in the stools with the treatment. In two the amebiasis was in a latent phase, but the toxic action of the parasites was manifest in the anemia. The treatment with emetin proved promptly effectual in the vegetative or motile forms of the ameba while it did not seem to act at all on the encysted parasites. The cysts are the resistant form, like the spores of tetanus and anthrax. The attempt to conquer the ameba cysts by increasing the doses of emetin or continuing it a long time are ill advised, the result being invariably nausea, general debility, disordered action of the heart or other disturbance.

79. **Syphilitic Pancreatitis.**—This is the second case reported by Udaondo recently. Profuse diarrhea for the last six months in the man of 39 with positive Wassermann reaction was ascribed to chronic pancreatitis, confirmed by functional tests. Mercurial and iodid treatment was pushed but no benefit was observed from the first ten injections. After a week of repose the treatment was resumed, and a prompt cure then was soon realized, as in his first case.

Revista de la Asociacion Medica Argentina, Buenos Aires

November, 1917, **27**, No. 156

81 *Lymphogranulomatosis in Man of Twenty-Four. C. B. Udaondo and M. M. Casteigts.—p. 515.
82 *Large Concretions in Urethra. E. Castaño.—p. 526.
83 History of Public and Social Hygiene in Argentina. E. R. Coni. —p. 537. Continuation.
84 Mineral and Thermal Springs in Argentina. E. H. Ducloux and P. Belou.—p. 608. Conclusion.
85 *Extensive Prolapse of Genital Organs. R. S. Gomez.—p. 635.
86 Action of Dog Serum on Frog and Toad. B. A. Houssay.—p. 641.
87 Skin Secretory Reflexes in Large Toads. E. Hug.—p. 647.
88 *Biologic Treatment of Fistulas in Digestive Tract. J. M. Jorge, Jr., and F. L. Soler.—p. 663.
89 *Cauterization Treatment of Cervicitis. J. P. Toribio.—p. 685.
90 Osteoplastic Disarticulations. G. Zorraquin.—p. 692. To be continued.

81. **Lymphogranulomatosis.**—In the case described, the tumors had all developed in the course of sixteen months. The tuberculin and Wassermann reactions were negative, and no appreciable improvement was detected under roentgen treatment or arsenic. No successful instance of vaccine therapy, using the Negri and Bunting Yates bacillus, has yet been published, the writers remark.

82. **Urethral Concretions.**—Castaño reports the third case in his service of successful operative treatment of concretions

impacted in the urethra. In a fourth case the young man was so debilitated from septicemia that he survived only a few hours after extraction of a concretion forming almost a cast of the entire dilated urethra. It measured 4¼ inches by 1½ at its widest point. A narrow passage through it had prevented absolute retention for years. At the age of 6 a concretion had been removed from the bladder by lithotrity but some scrap must have been left as he had complained of pains in the perineum ever since, and a tumor became evident at 14, which had slowly increased in size.

85. **Genital Prolapse.**—Gomez describes the technic with which in three cases he corrected prolapse of the entire vagina and uterus. One of the women has passed through a normal pregnancy since and in none has there been any sign of recurrence. He cites similar favorable experiences with the technic in the hands of others, pregnancy later not interfering with the successful outcome. The uterus is drawn out and up on the pubis, and the fundus of the pouch of Douglas is drawn up and buried by a purse-string suture including the posterior aspect of the uterine cervix, the right uterosacral ligament, the anterior aspect of the rectum, the left uterosacral ligament, and thus reaching anew the starting point in the cervix. Catgut or linen suture material may be used. When it is drawn up and tied, the pouch of Douglas is thus obliterated. As the knot is tied, the uterus is pushed down a little to relax the tissues of the cervix. The second step of the operation is to draw the round ligament through an opening made in the broad ligament with closed Kocher forceps, on a level with the isthmus of the uterus. The forceps holding the round ligament are given to an assistant to hold, and the procedure is repeated about 1.5 cm. below the insertion of the round ligament in the uterus, drawing the round ligament again through an opening made for it in the broad ligament of the same side. The whole is repeated with the broad and round ligaments of the other side. We then have four Kocher forceps holding each a loop of round ligament. These four loops are then sutured together, back of the uterus, working from below upward and including the uterine wall in the last suture. The uterus is thus forced forward and lies on the solid basis thus afforded. When the uterus has been removed, he sutures the stumps of the broad ligament together on the median line, working down from the top, and finally including the stump of the uterus in the suture.

88. **Biologic Research on Salivary and Pancreatic Fistulas.**—Jorge and Soler give the findings in six operative cases of fistulas in the parotid gland or pancreas. They gave the patients test tubes labeled with the food to be taken, the saliva to be collected separately. The tubes with the saliva were then brought to them for examination, and in this way they obtained insight into conditions and were able to direct the diet so that the fistula was relieved of much irritation and it promptly healed. The tests showed that much more saliva was secreted after eating 30 gm. of bread and after a meat meal, while the minimum was secreted with eggs. In a case of supposed echinococcus cyst in the spleen no germinative membrane was found, and the fistula secretion was finally recognized as pancreatic juice. Attempts then were made to check the secretion by modifying the diet, but the debility was too extreme. In two other cases, however, the improvement under dietetic measures was pronounced. The diet found effectual included meat, eggs, fats, cream, milk, asparagus and spinach, adding a little sodium bicarbonate. The rebellious salivary fistulas were treated locally, besides, with liquor formaldehydi under pressure, under which they promptly healed after the secretion had been diminished by the diet.

89. **Treatment of Chronic Inflammation of the Uterine Cervix with Hypertrophy.**—Toribio describes extremely favorable results from application of a caustic pencil made of one part calcium to two parts caustic potassium hydroxid. The vagina is packed with cotton around the cervix and the caustic is introduced into the previously cleared out cervix. It is left in contact for from five to eleven seconds and then a glycerin tampon is applied and the patient can get up at once. From eight to ten applications are generally necessary, allowing intervals of eight or ten days. There may be local hemorrhage, and increased leukorrhea is constant. The applications do not cause pain except in those predisposed to uterine congestions. An enema with laudanum may be indicated in these cases. The eschar is soft and the cervix retrogresses to normal size and shape, and offers no obstacle to delivery later, as was determined in three of the women who have passed through a pregnancy since. Toribio is confident that cauterization by this method will render operative measures unnecessary in many cases of chronic hypertrophy of the inflamed cervix. The reflex digestive and nervous disturbances and excessive menstrual flow that so often accompany cervicitis disappear.

Revista Medica del Rosario

May, 1917, **7**, No. 2

91 *Nonmalignant Tumors of the Cecum. M. A. Llanos.—p. 69.
92 Differential Diagnosis of Tumors in the Right Hypochondrium. R. Araya.—p. 76. To be continued.
93 *Cerebellar Symptoms. C. Muniagurria.—p. 97.
94 *Pipe Stem in Child's Trachea. M. Steinsleger.—p. 109.

91. **Nonmalignant Tumors of the Cecum.**—Llanos adds a fourth to the three cases of this kind he has found on record. In none was the diagnosis made before the operation, the irritation from the pedunculated tumor having induced invagination. The tumors were lipomas or fibromas; in his own case a fibromyxomatous polyp. When the invagination was easily reduced, this was done; otherwise the segment of bowel was resected. Smooth recovery was constant.

93. **Cerebellar Symptoms.**—The child of 10 presented symptoms indicating pressure on the brain, bilateral choked disk, characteristic vomiting, and occasional intense headache. The Kernig, Babinski and Brudzinski signs were positive, and the legs so weak the child could not stand without falling, but there was no paralysis and no ataxia. The child merely staggered like a drunken man, but he slept quietly and did not complain of pain except when frontal headache was brought on by raising him for examination. The head was of normal size and symmetry. There was no Wassermann or skin tuberculin reaction, and no eosinophilia. The spinal fluid was under considerable pressure, with evident xanthochromia, albumin 0.75 per thousand, and numerous red corpuscles in the field but only one leukocyte. The Nonne and Appelt reactions were both negative. An operation was done on the assumption of a tumor in the cerebellum, probably a cyst. The child died soon after the operation. Nothing suggesting a tumor was found nor any macroscopic changes enough to attract attention, unless possibly the lateral ventricles were larger than usual. The diagnosis was corrected to probable internal hydrocephalus.

94. **Pipe Stem in Child's Trachea.**—Steinsleger gives an illustrated description of what he thinks is the largest foreign body ever successfully removed from a child's trachea. It was the stem part of a pipe, and measured 6.7 cm. (2.6 inches), being about twice as long, and wider than an intubation tube. Two are shown in the illustration for comparison. Tracheobronchoscopy was impracticable and repeated roentgen examination gave negative findings, but the parents had seen the glass mouth piece of a pipe vanish into the throat, and the child was hoarse, with signs of laryngeal and bronchial irritation. The child breathed freely through it. The lower end must have rested in the right bronchus as the child trachea at this age averages only 8 cm. The three upper rings of the trachea were divided. A Kocher forceps was introduced, closed, into the pipestem and as the blades were spread the foreign body was easily drawn out. It had been in the throat four days.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Nov. 3, 1917, **2**, No. 18

95 *The Signs of Hemolysis with Anemia. L. S. Hannema.—p. 1653.
96 *Psychoneuroses and Therapeutic Exercise. F. J. Soesman.—p. 1670.
97 Comparative Mortality of the Sexes. J. P. H. Kroon.—p. 1674.
98 Cerebral Syphilis with Negative Wassermann Reaction. B. Frank. —p. 1679.
99 Fracture of Humerus above the Condyle. A. E. Vermeij.—p. 1720.

95. **Signs of Abnormal Hemolysis in Anemia.**—Hannema regards high bilirubin content of the blood serum as an instructive sign of abnormal hemolysis. That the spleen is the main seat of destruction of red corpuscles has been confirmed anew by his and Daniels' recent experimental research with injections of hemolytic serum into rabbits before and after splenectomy. Removal of the spleen protected the animals against the hemolysis to a great extent. The hemoglobin released from the corpuscles destroyed in the spleen is carried along the portal vein to the liver, where it is split up into bilirubin. Van den Bergh's test shows whether the bilirubin in the blood has been formed in the liver or elsewhere. One part serum from patients with retention jaundice is diluted with two parts distilled water, and Ehrlich's diazoreagent is added in an amount of one fourth of the volume. The tint changes to red which turns to a greenish blue in an alkaline medium, and, on addition of a drop of hydrochloric acid, into violet. Serum from persons with abnormally high hemolysis does not give this reaction, or not until after a long time and only when alcohol is added. Hannema has frequently applied this test and always found it possible to differentiate by this means the bilirubin from abnormal hemolysis and that from retention of bile by obstruction of the common bile duct. The bilirubin content in the blood may be very much above normal before manifest jaundice or bilirubinuria appears, and with hemolytic conditions the bilirubinemia is seldom intense enough to induce them.

Another sign of abnormal hemolysis is an abnormally high excretion of urobilin in the feces. Eppinger found that the average amount excreted by an adult in the twenty-four hours is from 0.120 to 0.150 gm. In hemolytic jaundice patients the figures were 2.96, 3.95 and 2.59 gm.; with pernicious anemia, 0.58 and 0.93 gm.; with aplastic anemia 0.03 gm., and with cancer anemia 0.012 gm. In two cases of hemolytic jaundice the figures were 2.96 and 3.95 gm. but dropped to 0.062 and 0.07 gm. a week after removal of the spleen. In others, from 0.68 and 0.58 gm. before splenectomy the figures dropped to 0.015 a week afterward. Hannema's own experience has confirmed the value of this sign of increased hemolysis, especially in connection with urobilinuria. In eight cases of pernicious anemia described, these three signs were pronounced. One patient was a woman of 40 and the severe anemia was much benefited by splenectomy. Five months afterward the hemoglobin percentage had increased from 23 and the reds from 1,900,000 to 75 and 3,000,000. But two years later the symptoms of pernicious anemia returned. Evidently some other organs have assumed the functions of the spleen in respect to hemolysis. Hannema never found this bilirubin-urobilin triad in cases of secondary anemia, while it was constant in his true pernicious anemia cases, but not with aplastic anemia. The pernicious anemia may however, assume the aplastic type, with the above triad. As a rule this triad is accompanied by the blood picture of pernicious anemia, but this is not invariably beyond question. In none of the eight cases described was any cause for the anemia discovered. The experiences related justify the conclusion, he thinks, that we have in bilirubin a means of differentiating true pernicious anemia in a comparatively early stage.

96. **Exercise in Treatment of Psychoneuroses.**—Soesman expatiates on the advantages to be derived from light athletics, mountain climbing, fishing, etc., as exercising not only the muscles but the eye and ear, in systematic treatment of psychoneuroses. They are especially useful in the forms with depression and atony, while the obsession forms are often relieved by tennis, hockey and other outdoor games. The forms with hypertony, the excitable, impulsive patients do better with fishing, ball playing and gymnastics. In all forms of psychoneuroses, the exercises and games which have to be done in concert with others are likely to have a beneficial influence when suited to the form of the psychoneurosis.

Hygiea, Stockholm

October 31, 1917, **79**, No. 20

100 The System for Medical Inspection of Troops. (Sjukvisitationer.) R. Erhardt.—p. 1041.

Ugeskrift for Læger, Copenhagen

Nov. 8, 1917, **79**, No. 45

101 *Fatal Hemorrhage in the Suprarenals in Young Children. C. Friderichsen.—p. 1817.

Nov. 15, 1917, **79**, No. 46

102 *Disease of the Internal Ear with Epidemic Parotitis. C. Heilskov.—p. 1843.

103 The Solution of Salvarsan. M. B. Pedersen.—p. 1851.

104 Economy in Making Cereal Gruels. J. O. Kristensen.—p. 1853.

101. **Hemorrhage in the Suprarenals in Young Children.**—Friderichsen reports a case, in a 6 months child, of fatal hemorrhage in the suprarenal glands which were both large and congested, without external rupture. He found a similar case in another infant recorded in the hospital annals, and a case in a boy of 14, and has compiled twenty-five from the literature. Most of them were in nurslings; only three cases were in children between 2 and 3, and only one in a child of 14. The children were all apparently well nourished and seemed to be thriving. They woke suddenly towards morning, screaming, sometimes vomiting, sometimes with diarrhea, sometimes with convulsions, intense cyanosis and pallor; no signs of lung affection, but high temperature, small irregular pulse, and sometimes unconsciousness or great distress. The cyanosis extends around the trunk and on the extremities and nates, and in a few hours petechiae develop and death follows in from six to twenty-four hours after the first symptoms, without any cause having been discovered until necropsy reveals hemorrhages in both suprarenals.

Examination of the blood in twelve cases revealed staphylococci, streptococci or pneumococci in only seven cases. In none of the cases was the hemorrhage sufficient in amount to rupture the capsule. Death seems to have been due to the acute insufficiency of the suprarenals, and this suggests that epinephrin given in time might have warded off serious consequences. The cutting off of the natural epinephrin supply from the blood relaxes the tonus of the peripheral blood vessels, and thus may explain the cyanosis and also the purpura in these cases. The absence of hemorrhages in other internal organs shows that a general hemorrhagic tendency is not in play here. All the children died, but the occasional discovery of signs of old hemorrhage in one suprarenal at necropsy of children dying from other cause, shows that this "suprarenal apoplexy" is not always inevitably fatal. If the blood pressure is found low with the shifting cyanosis and asthenia, a subcutaneous injection of epinephrin in large and repeated doses is justified. The favorable results obtained with this in diphtheria suggest the advisability of systematic investigation of the blood pressure in alimentary and infectious toxic states, and giving of epinephrin besides the generally applied stimulants. It is possible that different hemorrhagic conditions of the blood and mucous membranes are the result of temporary insufficiency of the chromaffine system over which we may thus tide the patient.

102. **The Internal Ear in Mumps.**—Heilskov reports three cases of symptoms on the part of the internal ear as an element in the clinical picture of epidemic parotitis. In one case the labyrinth symptoms, tinnitus, vomiting, dizziness and sudden and rapidly progressive deafness in one ear, preceded by nine days the other manifestations of the parotitis, and the latter developed on the other side. The patient was a young woman, and the loss of the thermic reaction indicated apparently total paralysis of the labyrinth. The parotid gland was only lightly affected, and the mumps showed no other localizations, but there was slight fever for six weeks, with some uncertainty in the gait, and for a long time she could not lie on that side without dizziness and vomiting if she raised her head. The tinnitus has persisted for three years to date, with total deafness on that side. In the two other cases there is still a slight labyrinthal defect left from the acute serous labyrinthitis accompanying the mumps. These patients were a girl of 16 and woman of 36. In another case a girl of 7 was left totally deaf after mumps. This "traveling mumps" suggests that the virus may localize in the labyrinth or in the acoustic nerve, meninges or brain. Lumbar puncture may throw new light on it.